2 disc Special issue

The best-selling Acorn magazine in the world

ACORN USER

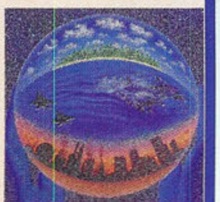
Essential for all users of 32-bit RISC OS computers

Christmas presents

CHRISTMAS 1995 ACORN USER Game disc 1

Global Effect

A demo of the stunning new game from ECLIPSE



Eco-friendly world simulator

VIRUS CHECKED • VIRUS CHECKED • VIRUS CHECKED • VIRUS CHECKED • VIRUS CHECKED

CHRISTMAS 1995 ACORN USER Game disc 2

FistLore

Try out ICS's new beat-'em up



Plus:
- Mike Cook tackles MIDI
- Christmas Carols in *INFO
- Top Risc PC demo Blu

VIRUS CHECKED • VIRUS CHECKED • VIRUS CHECKED • VIRUS CHECKED • VIRUS CHECKED



- Public Domain round up
- Alone in the Dark
- [illegible]m technology explained
- [illegible]lyBible review
- 3D design feature
- Logix, RSDFS and RapIDE reviews
- Report-writing

IDG MEDIA
Christmas 1995 Issue 163 £3.75

CONTENTS

Editor's letter

I don't know if you have the same trouble that I do in choosing Christmas presents for your loved ones (and those tolerated under sufferance), but I hope that our list gives you some ideas beyond the latest computer game. Not that the latest computer games are bad – far from it, there's quite a flurry of activity in that area to which the multitude mentioned in the magazine will testify.

Hopefully our PD section should serve as a guide to those still unsure about this large area of the Acorn market. And, for the nostalgia fans among you, we have a review of the latest emulators for the BBC Micro and ZX Spectrum which will run all those old games you thought you'd never play again.

Have a good end of year, and go easy on the mulled wine when digging out that copy of *Revs*.

David Matthewman

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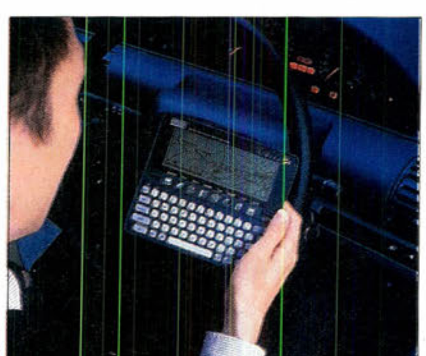
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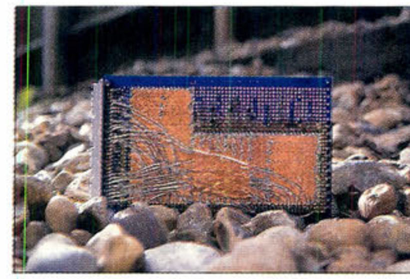
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REGULARS



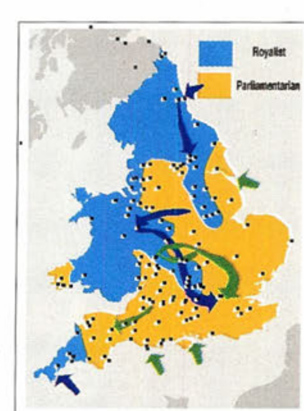


HANDS ON





EDUCATION



Christmas 1995

REVIEWS

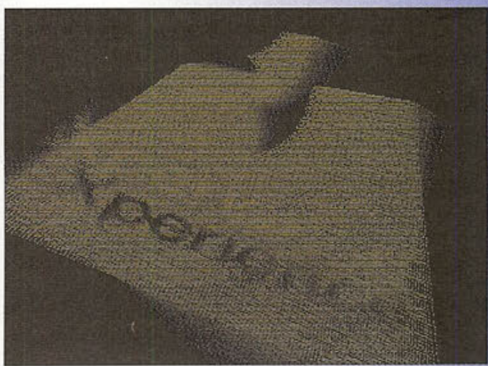


FEATURES









Next month in Acorn User

Hybrid machines

Acorns with PC cards inside them, Acorns that network to PCs, hardware to run PC cards inside Acorns – it's all in this issue, and much more besides. We'll have another round up of CD-ROMs (is it just me, or have these started to be released at a faster rate since we had one on the cover?) including a look at the acclaimed Dorling Kindersley PB Bear, now readable for the first time on the Acorn. We've also got a preview of BETT – so for the latest news on who's going to be there and what they're doing, you know where to turn.

Cover CD-ROM

The next *Acorn User* will carry Acorn's latest products and services directory on the cover on a CD-ROM. The last time we had a CD-ROM on the cover we sold out completely, so reserve your copy at the newsagent now (we're back to the old £3.25 price, too).

NEXT ISSUE
ON SALE 28 DECEMBER

TV Tuner + Teletext + NICAM

iTV is a complete television reception system with **TV tuner, Teletext** & **NICAM stereo** audio decoder on a single card.

iTV is simple to use with channel and teletext page selection all carried out from a single RISC OS application.

As well as generating stereo audio & video, **iTV** can also switch in an external source so that you don't have to mess about swapping leads. A composite video output is provided to drive digitisers - with integral support for the **24i16** multimedia system.

- Teletext & NICAM support **as standard** including all software.
- Crystal controlled full-band tuner receives VHF/UHF from aerials, cable or VCRs etc.

ImageBank - £31.14 inclusive

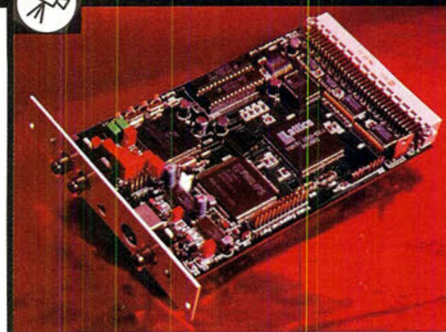


With a copy of **ImageBank** you can squeeze ten megabytes of 24 bit scans onto a single floppy disc, and catalogue them too!

ImageBank compresses pictures automatically, creating 'thumbnail' versions so that you can browse through them quickly and easily.

Double clicking on the thumbnail rapidly decompresses the image to its full size. Acclaimed in reviews as an invaluable utility.

24i16 Multimedia Card



24i16 combines an advanced 24 bit video digitiser with a 16 bit sound sampler. As well as brilliant still images **24i16** captures superb Replay movies and hi-fi audio.

24i16 can grab a complete TV frame at a resolution of 768 pixels by 576 lines from S-Video or composite sources.

Replay movies (including sound) can also be captured at up to 25 images per second. Image size and rate are adjustable and limited only by disc and system bandwidth. Sophisticated software is provided which is both flexible and easy to use. Features include:

- Hardware scaling & anti-aliasing.
- **Contrast, hue, brightness** and **saturation** control in **real-time**.
- Built-in **ADPCM** audio compression.
- Mixing and high quality filtering of built-in Acorn sound system.
- SWIs and examples are available to allow easy use from your programs.
- Optional waveform monitor and vectorscope utilities.

"The image quality possible from **24i16** is the best obtainable...Replay quality is superior to anything else..." - Archimedes World

Multimedia & Scanning: The BIG Picture

24 Bit COLOUR Hand Scanner



The **First and Only Colour** hand scanner for RISC OS machines. Supplied complete with a specially designed expansion card and application software for A400, A5000 and Risc PC. From monochrome or 256 grey scales up to full 24 bit scans this scanner does them all brilliantly. But don't just take our word for it:

"Irlam has led the way in bringing high quality colour scanners to the Arc...**The first affordable 24-bit colour scanner**...Irlam has obviously put a lot of effort into getting the best possible images from the scanner, and the images that ProI-Mage generates are excellent ...an excellent product at a very reasonable price..." - RISC User

"I was most impressed by the quality achieved by this handy unit...The entire package works very well and produces stunning results..." - Archimedes World

Unlike many hand scanners this package is easy to use, scans straight and produces brilliant results. Features include:

- 24 bit scan head providing 16.7 million colour & 256 grey levels.
- **Real-time high-quality preview** whilst scanning direct-to-disc.
- Resolution up to 400 dpi.
- Powerful **colour map controls** allowing RGB components to be adjusted individually and effects previewed in real-time.
- 32 bit sprite format & takes advantage of new Risc PC modes.
- 24 bit Clear & industry standard compressed TIFF and JPEG files.
- Brightness, Gamma correction and Sharpness controls.
- Visual and audible warning if scanning speed is too fast
- Images can be rotated and cropped after scanning.

Epson Colour Flat-Bed Scanners



Epson scanners are reliable, fast and produce consistently high quality scans.

They can be driven directly from the printer port of A3010, A3020, A4000, A4, A5000 and Risc PCs (an interface card is available for A400s etc). They also work via most major **SCSI** interface cards including Acorn, Alsystems, Cumana, & Morley.

GT8500. 400dpi (optical) resolution and interpolates to 1600dpi.
GT9000. Scans at 600dpi (optical) and interpolates up to **2400dpi!**
Both scanners digitise internally to 30 bits which ensures that detail is faithfully reproduced even in dark areas. Built-in parallel and SCSI ports.

Transparency Adaptor. This optional unit fits any Epson scanner and allows slides and black and white negatives to be scanned up to full A4.

ProI-Mage - Colour Scanning Software

ProI Mage

ProI-Mage scanning software has been under continuous development for several years. It is proven, easy to use, produces high quality images and supports a wide range of image formats including industry standard TIFF and compressed JPEG files. We can supply complete packages (interface cards & leads etc) or just software. Features include:

- Multi-tasking scanning with images building up on-screen.
- Fast previews and scanning direct-to-disc for large images.
- Superb 256 colour sprites plus True Colour for Risc PC.

Low-cost 16 bit Audio Sampler

Lambda16 is a very high quality 16 bit sound sampling system for RISC OS computers. A wide range of sampling rates is supported from 5KHz up to 48KHz (including CD and DAT frequencies). **Lambda16** records direct to hard disc, rather than memory, so samples can be as long as your hard disc capacity will allow. Features include:

- samples stereo high quality 16 bit sound direct-to-disc.
- uses 16 bit audio output for very high quality playback.

"The sound quality from **Lambda16** is excellent...I couldn't really fault this product..." - Archimedes World

Irlam Instruments Ltd,
Brunel Institute for Bioengineering,
Brunel University, Uxbridge,
Middlesex, UB8 3PH.
Tel/Fax **01895 811401**.
Email sales@irlam.co.uk

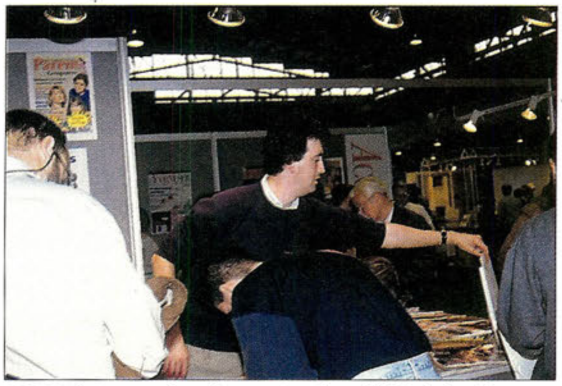
All products come with 1 year full guarantee. E&OE.

Access

VISA

News

Acorn World gets go-ahead for 1996



IDG Media's managing director, Ian Bloomfield, pitches in to help on the *Acorn User* stand.

REGAN



Blue Peter's Diane-Louise Jordan drops in for a visit.



The Cyber Café – a big attraction.

DESPITE Acorn's many troubles in 1995, the Acorn World show seems to have sounded a much-needed note of optimism as the year approaches its end. Although Acorn couldn't quite claim an improved attendance in 1995, around 10,000 visitors still made the annual pilgrimage to Wembley. On the very first day, new managing director, David Lee announced that Acorn and *Acorn User's* publisher IDG Media had agreed terms jointly to stage Acorn World in 1996.

'I'm delighted with the success of the show,' said David Lee, who added: 'The level of enthusiasm and interest that has been shown this weekend in Acorn's current technologies and future developments has been tremendous. I know that our partners exhibiting alongside us here at Wembley are also extremely pleased and nearly 50 per cent have already signed up for next year's show.'

Of course, the show was a new experience for Lee, who was spotted wandering largely unrecognised among the show-goers; this may not be a luxury he can enjoy next year.

The Internet was undoubtedly the star attraction of this year's Acorn World show. Everyone had the opportunity to surf the information superhighway via the ArgoNet Internet Café feature at the show. On the first day of the show there was a live Internet link up with *Blue Peter*'s Diane-Louise Jordan testing out video conferencing with the *Blue Peter* stand at CBBC's Big Bash with Coca Cola at the NEC, Birmingham. Meanwhile several stands, including Ant Ltd, Argonet, Doggysoft and Minerva/Zynet were demonstrating Internet access products.

The show was an opportunity to see Simtec's multi-processor board for the Risc PC. Developed in co-operation with Acorn, the special board can use up to five additional ARM Risc PC processor cards for high-powered applications. For more details, see last month's news. Simtec was also demonstrating its novel upgradable memory SIMMs.

Version 3 of Sibelius Software's award-winning music authoring software was another crowd-puller. The enhanced software features a new 'Flexi-time' super-intelligent, real-time, MIDI input system and standard MIDI file conversion. There is also a new notepad facility for cutting and pasting ideas into scores, plus new tools for film and commercial music production. Meanwhile, Oregan Software was demonstrating *CineWorks*, currently the only package for Acorns capable of full-screen PAL video editing. Additional features include chroma keying, path definition, transparency and colour controls.

An interesting and unique product was being shown by KITT Engineering. Its MIMIC product provides an innovative way of sensing movement in two or three dimensions using a video camera. Possible applications include sound, lighting and graphic effects.

ART, Acorn's new Applied Risc Technologies division was showing off its capabilities with a videophone using an ultra-fast software-based motion JPEG algorithm of which there are high hopes for a number of specialist markets, from video on cellular phones to Online Media-type interactive multimedia applications.

With Computer Concept's *Impression Publisher* package more suitably labelled for DTP than word processing these days, the competition is hotting up to find a new leader in the RISC OS word processing stakes. It was good to see Colton Software bravely carrying on at Acorn World, despite the sad absence of Mark Colton. However, keen competition to Colton's *Wordz/Fireworkz* packages comes from Softease, which launched *TextEase* version 2 and *Talking TextEase*. New features include text and picture rotation, drag and drop editing, object linking and embedding (OLE) plus support for JPEG image compression.

For more technically demanding users, Icon Technology's *TechWriter Professional* was attracting attention at the show. This is a superset of the standard *TechWriter* word processor which, among other things, supports smart quotes and index and contents generation.

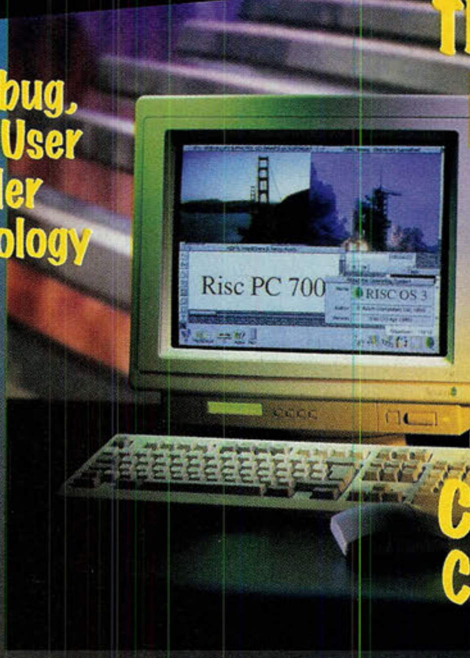
According to Acorn, business software houses had their best ever *Acorn User* show. Apparently Apricote Studios completely sold out of its new *Shares* portfolio-management program; perhaps this has something to do with Acorn's soaring share price at the moment?

Another interesting add-on was shown by Lindis International in the form of the SimpleTouch clip-on touch screen which turns an ordinary monitor into a fully functional touch screen. SimpleTouch is aimed at schools and homes with youngsters as well as the special needs market.

Other notable stands included a welcome appearance from Eidos to show its Optima professional video editing suite, Irlam Instruments and its MJPEG board, Warm Silence Software who was showing a viewer for 3D QuickTime VR movies, Aleph One showing modified PC cards fitted with fast NexGen 586 processors, Pineapple Software and Walter Briggs *ArtWorks* tutorial video and Spacetech showing *Photodesk 2*. Roll-on Acorn World '96!

Upgrade to a New Risc PC

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BEEBUG is Acorn's largest dealer & is an Acorn Centre of Technology



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or
12 months **RISC User Magazine & Disc** Subscription (RRP £69.90)

New Lower Prices

Risc PC600 4Mb HD425, with AKF60 monitor	£1148.00
Risc PC700 5Mb HD425, with AKF60 monitor	£1360.00
Risc PC700 10Mb HD850, with AKF60 monitor	£1692.00

12 months on-site warranty included.
17" Acorn AKF85 Monitor - Add £278.00
Acorn Double Speed CD Drive - Add £111.00
0% APR credit is available over 20 months. Please call for written details.

The A3010 Computer (originally £424)

now just £140

This is a unique opportunity to purchase a complete Acorn computer at an unbelievable price. Beebug has negotiated this offer directly with Acorn Computers and can guarantee you that this price will never be repeated once stocks have been sold.



A3010 with optional monitor

A3010 Specification
The A3010 is supplied with 1Mb RAM (upgradable to 4Mb), RISC OS 3.1, mouse, stereo sound, two joystick interfaces and can be used with either a TV or monitor. It includes Edit, Paint, Draw, and Maestro music programs along with the game Zool and wordprocessor StartWrite. The system has a single expansion slot for hard drive or scanner etc., serial port and a bi-directional printer port.

Monitors & Upgrades	
1-2Mb RAM	£40
1-4Mb RAM	£125
80Mb Hard Drive	£145
AKF53 Monitor	£170
AKF50 Monitor	£245

Upgrades
We can offer a number of upgrades at reduced prices and fitted free when purchased with a system. For example a 2Mb A3010 with monitor would cost just £350. These systems are ideal for home and educational use and offer a very similar specification to the A3020, as used in most schools throughout the country.

Software Packs
The following packs are available when buying an A3010.

Home Office	Easiwriter, Datapower, Pipedream 4, PC Emulator/DOS 6	£80
Home Professional	Ovation DTP, Pipedream 3, Atelier, Type Studio, Chartwell, Chess	£35

BEEBUG
BEEBUG Ltd 117 Hatfield Road St Albans Herts AL1 4JS
Tel 01727 840303 Telesales Hotline 01727 840305 Fax 01727 860263
E-mail sales@beebug.co.uk UK delivery £8.00. All prices are exclusive of VAT

Teletext+ from Octopus

OCTOPUS Systems has launched *Teletext+*, an advanced teletext software package which will work with adapters from Morley, Computer Concepts, Ground Control, Design IT, Irlam and Octopus Systems. The software is especially attractive to Morley card users, as the Morley software runs outside the Desktop, unlike *Teletext+*.

Pages can be saved as Viewdata, sprite or text files, and other information can be exported – for instance share prices in a CSV file or in a special format for Apricote's *Shares* program. The software also provides a useful set of SWI calls for other applications to use.

Teletext+ boasts a page-cacheing facility, allowing frequently used pages and sub-pages to be accessed without any delay. Keyword searches can scan hundreds of pages for items of interest which might otherwise be missed. A separate display of keyword matches is built up giving an individual subset of all the Teletext pages for you to browse at your leisure.

Teletext+ costs £39 inc VAT as a software-only upgrade for existing teletext adapters or (while stocks last) Octopus Systems can supply it with an external teletext adapter for £169 inc VAT. Naturally, you will also need a reasonable-quality TV aerial feed.



Octopus Systems' *Teletext+* makes teletext on the Desktop more usable.

Octopus Systems
Tel: (01473) 728943
Fax: 01473 270643
E-mail: teletext@octopus.thenet.co.uk
WWW: http://www.thenet.co.uk/~octopus/

StrongARMs previewed

THE term 'patience is a virtue' could prove rewarding if the prospect of ultra-fast ARM processor technology is realised. First samples of Digital Semiconductor's StrongARM processors, which should be software-compatible with the current selection of ARM processors used by Acorn, could start to appear in just three or four months. Digital Semiconductor has previewed the first StrongARM processor cores at the recent Microprocessor Forum conference. Digital will use the new cores as at the heart of several new high-performance but low-power-consumption microprocessor chips, the first of which will be announced in the first quarter of 1996.

The StrongARM-1 (SA-1) will lead on from ARM's own yet-to-be-seen ARM800 design and will be clocked internally at rates starting at 160MHz. The SA-1 core contains over 115,000 transistors and power dissipation is just 120mW running at 160MHz. ARM Ltd is speculating that the first StrongARM products using the SA-1 core will deliver approaching 400MIPS (million instructions per second) per watt of power dissipation, ten times better than the processors found in Desktop computers today. Digital will use its advanced 0.35 micron triple-layer metal CMOS process and optimised design tools to enable the processor to withstand such high clock speeds.

There have been some radical architecture changes too. While code compatibility with the ARM6, 7 and 8 generations has been retained, the SA-1 core has been upgraded from the previous Von-Neuman style architecture to use a Harvard style architecture, with separate instruction and data caches to improve processor performance.

The pipeline has also been upgraded from three to five stages and there are new early branch execution, single cycle shift-adds, a high-performance multiplier and a new five-port register file. StrongARMs will be affordable, much faster than current ARM chips and you'll probably find them in all sorts of mobile battery powered products from Apple Newton-style personal digital assistants to cellular telephones.

Spobbleoid Fantasy competition

The Fourth Dimension has announced a competition for owners of its *Spobbleoid Fantasy* game. As one of the attractions of this game is a level designer, 4D is offering £100 worth of software to the designer of the best *Spobbleoid Fantasy* levels. The levels must be at least a complete set of six for one area, though you can design more if you wish. The judges (one of whom will be the original programmer Graeme Richardson) will be looking for ingenuity of design and will favour levels that really test their problem-solving abilities.

If you want to enter, first design your levels using *Spobbleoid Fantasy's* level designer, then send the disc with your levels to: Spobbleoid Fantasy Competition, The Fourth Dimension, 1 Percy Street, Sheffield S3 8AU. Entries must be in by the end of February and, as always, the judges' decision is final.

Spobbleoid Fantasy itself is available from 4D for £24.95 + VAT, and you should look out for some new releases in the New Year.

The Fourth Dimension
Tel: 0114-276 9950

LG Semicon ARM licence

ARM Ltd has signed yet another licensee for its RISC processor technology. The latest is LG Semicon of Korea which has licensed the ARM7 microprocessor core and the ARM710 Microcontroller in a variety of low power consumption embedded controller applications. A major DRAM manufacturer, LG Semicon is one of the fastest growing chip-makers in the world.

Acorn programming service

MGResearch is now offering a programming service to anyone who requires custom-written software. Potential customers need to submit a program plus copies of any logos and specialist icons to be used in the program's user interface. The service starts at £100 charged for 'simple' software like an application launcher, to around £500 for more advanced software like a desktop publisher. A royalty of five per cent (of net profits) is also charged. Graphics can also be designed for an additional fee.

MGResearch
Tel: (01252) 621004

Sonamara alarmed

Sonamara Computer Services has announced a pair of new hardware products, new MultiGen video overlay adapters and Quipalarm Q3 security systems. From November, Sonamara's existing genlock adapter product is replaced by MultiGen and MultiGen Pro. The new entry-level MultiGen model supports resolutions up to 800x600 and can be remote-controlled.

Inputs cover S-video and composite video and these video standards are provided as outputs along with RGB. This basic MultiGen model is priced £255.28 + VAT. MultiGen Pro supports resolutions up to 1600x1200, ideal for large Risc PC screens along with Alpha channel support, 2x zoom and YUV output. MultiGen Pro is priced £425.49 + VAT. The other new item from Sonamara is Quipalarm Q3 – a device for alarming your computer and so to deter both its theft or the theft of its components, an increasingly common danger. The Sonamara Quipalarm, complete with 120 decibel siren, is priced £59 + VAT.

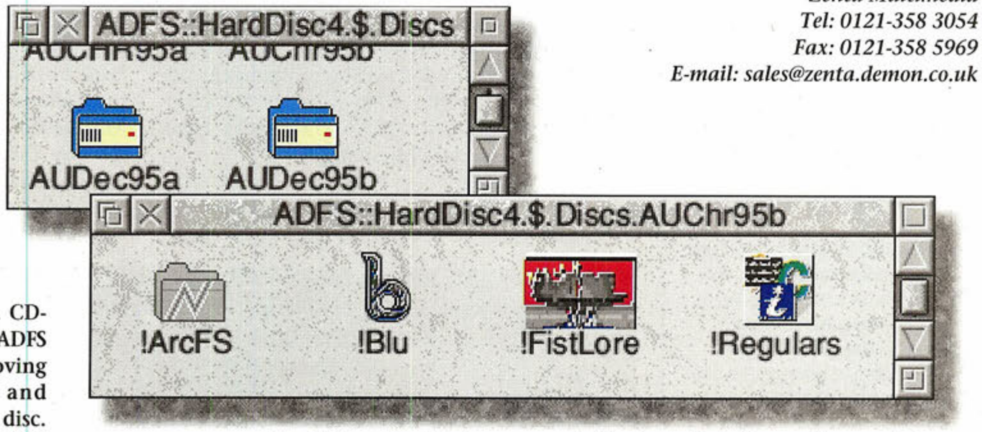
Sonamara
Tel: (01626) 873763,
Fax: (01635) 297866

The core solution

ZENTA Multimedia has come up with an idea that will be music to the ears of anyone who regularly has to duplicate discs or create CD-ROMs. The standard *CoreFS* release creates a floppy disc partition on a hard drive – it is far faster to copy a disc image to floppy than to copy a set of individual files. Furthermore, you can accurately judge how much free space will be left on the floppy disc, which can otherwise only be estimated using the Filer's 'Count' function.

CoreFS Max goes one better and creates a large ADFS partition on a CD-ROM. Inside this partition standard ADFS filenames can be used, greatly improving the appearance of Filer displays and making it much easier to create the disc. *CoreFS* costs £45 + VAT, and the CD-ROM version *CoreFS Max* costs £95 + VAT, which includes a licence to put the read-only version on up to two CD-ROM titles.

Zenta Multimedia
Tel: 0121-358 3054
Fax: 0121-358 5969
E-mail: sales@zenta.demon.co.uk



CoreFS is worthwhile for anyone who has to duplicate floppy discs regularly.

Tesco scheme success

ALMOST 5,000 computers will be supplied to schools across the country free of charge thanks to this year's Tesco Computers for Schools scheme. In all more than 24,000 items were claimed by over 12,000 UK schools this year. That means over the four years since the scheme has been running, more than a third of all schools in the UK have netted a total of 21,000 free Acorn computers and over 80,000 additional items of computer-related gear.

The tally of computers claimed this year includes nearly 500 A3010 Early Years packs, over 600 A4000s and more than 100 Risc PCs. Pocket Book IIs were especially popular, with over 1,000 claimed through the Tesco scheme. Acorn has revealed that overall, 10 million Tesco Computers for Schools vouchers were redeemed against Acorn computers this year.

Teresa Selvey, Computers for Schools Project Manager at Acorn Education, commented: 'Acorn offered a wider choice of products in this year's scheme than ever before and we have been delighted at the response. Additionally, as a result of Tesco's acquisition of some 50 William Low stores last year, we will be providing computer equipment as part of the Tesco Computers for Schools scheme to Scottish schools for the first time. We are already looking forward to Tesco Computers for Schools '96.'

Over 23 schools around the country spent a day at their local Tesco stores performing in-store projects which were then entered into a prize competition. In the primary school section, Millfield Primary School, Ely, Cambridgeshire won an A7000 CD multimedia computer with its project entitled 'Shopping at Tesco'. The secondary school section was won by Garforth Community College, Garforth, Leeds with 'A Day in the Life of Tesco', which netted a Risc PC 700 CD multimedia computer.

Good news is that smaller schools to will be able to claim more valuable scheme items by carrying over surplus vouchers for the 1996 scheme. Over three million vouchers have been forwarded to the mailing house to be held until next year's scheme.

Acorn User diary

If you have an event you'd like including, send it to *Acorn User* Diary at the editorial address or e-mail audiary@idg.co.uk.

Date	Event	Venue	Contact
3 Dec	Beebug open day	Beebug, St Albans	Beebug: (01727) 840303
10 – 13 Jan	BETT '96	National Hall, Olympia	Ticket hotline: 0181-984 7711
26 Jan	ARM Club open day	Belmont School, Mill Hill, North London	The ARM Club: 0171-624 9918
7 – 9 Mar	The Education Show	Halls 11 & 12, NEC	Ticket hotline: 0171-984 7711

Nostalgia back in fashion

In stark contrast to its futuristic QuickTime VR 3D graphics software, Warm Silence Software was offering two products at Acorn World which will be very welcome to fans of *Exile* and *Manic Miner* – emulators for the ZX Spectrum and BBC Micro. Although emulators already exist for these machines, the WSS programs written by occasional *INFO contributor Michael Borcherds claim a much higher success rate at running 'difficult' software. The packages are reviewed elsewhere in this issue.

Another company concerned with less venerable but still fairly middle-aged software is ACORNGAMES. This company is selling a number of Superior Software titles at reduced prices. *Air Supremacy, Ego: Repton 4, Repton 3, The Last Ninja* and *Technodream* are all available at £16 inc VAT each or £33 inc VAT for the lot. The *Play it again Sam* bundles are £21 inc VAT each, as is *Speech 2*. Cheques, payable to 'ACB Singleton', should be sent to ACORNGAMES, 31 Great Woodcote Park, Surrey CR8 3QU.

New Internet companies

Alan Wrigley has left his editor's post at *Risc User* to set up a new company specialising in Internet services, like setting up market areas on the World Wide Web. The new company is called Malibran and one of the new company's first offerings will be an Acorn-specific area called Acorn CyberVillage. For more information on the CyberVillage, including participating in the project, contact Alan at Tel/fax: (01925) 210657, e-mail: malibran@rheingld.demon.co.uk.

Meanwhile, Stuart Longbottom of LongCo announced that a new Internet service provider aimed at Acorn users was due to come online on 6 November. Anyone interested should phone 0113-230 2992 or fax 0113-230 2993.

Thumbs up

Texas Instruments is announcing the sample availability of the ARM7TDMI 32-bit RISC core. The ARM7TDMI core is a small yet powerful 32-bit RISC processor with the Thumb extension to reduce system cost, the advanced EmbeddedICE in-chip Debug system and an enhanced DSP capable Multiplier.

ARM Ltd says the Thumb extension delivers 32-bit RISC performance at 16-bit system costs through the efficient use of a second, compressed set of instructions only 16-bits wide. This reduces memory use by a third and simplifies circuit board complexity. The first sampled were shown at the recent Microprocessor Forum at San Jose in California.

More RISC on the disc

Volume 2 of the RiscDisc CD-ROM was unveiled by Uniqueway at Acorn World. According to Uniqueway the new CD is completely new and has a much larger Public Domain and Shareware section. Following the leading theme of the show, the CD contains an off-line sample of the World Wide Web on the Internet, called the Virtual World Wide Web. The sample contains no less than 100Mb of selected Web pages which can be browsed using with *ArcWeb* or *Webster*, both of which are supplied on the CD.

For the first time there is also a special section for Acorn Clan members. The Risc Disc Vol.2 is priced £25 (£2 off for Clan members).

Uniqueway
Tel: (01222) 644611
Fax: (01222) 644622
E-mail: sales@uniqway.celtic.co.uk

Apple Newton OS face-lift

THE Apple Newton – perhaps the most famous ARM-powered product outside the Acorn world – has just received a crucial boost with the introduction of version 2.0 of its operating system. Until now, the Newton has disappointed because of its poor handwriting recognition and patchy compatibility with popular Desktop computer applications. Both of these issues have been addressed, according to Apple.

Despite improved pen recognition, Apple has also introduced an optional compact external keyboard. There were rumours that a new faster Newton would also be announced, but no such news was forthcoming at this year's Comdex Fall mega computer show in Las Vegas.

Meanwhile, there are rumours circulating that the Apple Newton division could soon be sold to Oracle, the ambitious client/server software company. Oracle is in talks with Apple to license the Newton platform and possibly even to buy the Newton as a whole. Meanwhile, Apple itself is the subject of speculation that either IBM or Hewlett-Packard will soon be its new master.

Mechanisms CD-ROM

Creative Curriculum Software has launched a new Technology series on CD-ROM with the publication of *Mechanisms*. The dual-format Acorn/PC CD contains over 1,000 pages of information on the subject of mechanisms, covering the basic principles, terms and conventions.

Examples are illustrated with colour annotated photographs and overlays as well as moving video sequences to show the workings of selected mechanisms. An educational resource pack is available to accompany the CD. Mechanisms is priced £69 for the single-user version or £99 for a site licence. The next title in the Technology CD-ROM series will be called *Structures*.

Creative Curriculum Software
Tel: (01626) 873866

iSV updates

AT Acorn World, iSV Products had a number of announcements. First of all iSV has a new 28-page catalogue detailing over 600 RISC OS fonts, plus the Font Designer's Toolkit *FontTrixPRO*, *TableCalc* and the *ViVID20* high resolution emulator. That last item, which enables desktops up to 2048x1232 and 1600x1200, etc. to be displayed on pre-Risc PC computers, actually sold-out at the show. *ViVID20* is priced £11.20. Also new at the show were completely revised font packs, plus a new Blackletter Gothic font pack, containing over 200 Gothic and medieval style fonts, priced £21.50.

iSV Software Products
Tel: (01344) 55769

Sibelius on TV

THERE'S no stopping the Acorn's favourite music program. Not content with being demonstrated to Princess Diana, *Sibelius 7* will now be performing the title music to the BBC's adaptation of Roald Dahl's *Little Red Riding Hood*, to be broadcast over Christmas. Paul Patterson, Professor of Composition at the Royal Academy of Music, used *Sibelius 7* to compose his music for the programme.

The London Philharmonic Orchestra plays the incidental music during the programme, but the title music is *Sibelius 7* with a little assistance from a live flautist. This is made possible by *Sibelius's* ability to play music 'expressively', termed *Espressivo*, which is octaves away from most computers' attempts to put some artificial life into their playing.

Sibelius Software
Tel: (01223) 302765
Fax: (01223) 351947
E-mail info@sibelius.demon.co.uk

Cumana plight

CUMANA is the latest surprise victim of financial woes, despite performing well at Acorn World and selling out of proTeus drives on the first day. The multimedia hardware specialist company has recently been suffering from cash-flow problems, and has asked its bank to appoint administrative receivers to manage the company while looking for a buyer.

It should be stressed that Cumana is intended to be sold as a going concern, and that its overall position as one of the main players in the Acorn arena should make it attractive to any potential buyer. The Joint Administrative Receivers, Raymond Hocking and Malcolm Cohen of BDO Stoy Hayward, are indeed currently in negotiation with a number of interested parties. In the interim, Cumana is continuing to trade and sees no reason why it should be unable to fulfil both existing orders and any further orders which may be placed with it.

Administrative receivership is by no means the end of the line for many companies, and the signs are hopeful that Cumana will be with us for many years to come; the fact that Cumana entered this state voluntarily is generally seen as a good sign. However, in the broader picture Cumana's troubles must be ringing alarm bells throughout the Acorn industry. Cumana was (and still is) seen as one of the key players in Acorn's new strategy, and for it to be in this sort of trouble is very worrying.

Acorn

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Other configurations also available including the complete range of Castle Technology upgrades for the A3010.

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All trademarks acknowledged.
*Cheques: allow 5 working days to clear.

THE A3010 COMPUTER

The A3010 is ideal for schools, small businesses and, of course, in the home. The A3010 shares the same processor and main electronics as the A3020 & A4000 computers. It has one internal expansion slot, a serial port, two joystick ports and a parallel printer port.

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The A3010 supports a wide range of monitors. Our MPRII monitors are suitable for most software, including the above (some older software may not run correctly). Castle Technology can also supply Acorn AKF50 or AKF52 monitors.

THE CASTLE TECHNOLOGY PRODUCT RANGE

Scanflat • £349
- Flatbed SCSI scanner
- Fits all Acorn computers with SCSI interface
- ImageMaster software included
- Fast scanning speed - 3.6ms per line
- Twain compliant

CD-ROM • from £65
- Supplied with Acorn Driver
- Choice of SCSI or IDE interface
- Free headphones, Photoview & Audioplayer
- Compatible with Kodak Photo CD
- Internally or externally housed

Hard Discs • from £89
- 2.5" or 3.5" sizes
- Fast access of up to 8ms
- 20Mb to 2Gb capacity
- Formatted and soak-tested
- Interface may be required


Scanflat

Light Pen • £199
- Suitable for all Acorn computers
- Menu & select buttons on pen
- Instant response time
- Three colour aluminium or plastic casing
- National Curriculum "input device"

Ergo Keyboard • £99
- Built in wrist support
- Tested to 30 million operations
- Quiet, tactile and curved low profile keys
- Full two year guarantee
- International versions available


Ergo Keyboard

SyQuest Removable Drive • £199
- 3.5" 105/270 Mb capacity
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- Programmable power saving modes
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SCSI Disc Share • from £199
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- Share CD ROMs, scanners and printers
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IDE and SCSI Interfaces • £65
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- Connect your computer to hard drives etc
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60Mb and 120Mb Hard Drives

for A3020 / A3010 / A3000 (Risc OS 3.1 required)

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We expect to sell out of this unbelievable Special Offer before Christmas - so order NOW!

Get one of our Special Offer hard drives and dramatically increase the power of your Acorn. Fit it yourself - no special knowledge is required and no extra parts are needed. Just connect and go!

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This is just one of a series of monthly Special Offers from Castle Technology - one of the UK's premier manufacturers and suppliers of Acorn upgrades. Watch out for more price-beating offers! For a full price list and colour brochure call 01728 621222

Castle Technology Ore Trading Estate Woodbridge Road Framlingham Suffolk IP13 9LL
Telephone: 01728 621222 Fax: 01728 621179 e-mail: sales@castlet.demon.co.uk



Virus Protection Scheme

The Pineapple Software Virus Protection Scheme provides the most comprehensive protection available against computer viruses. !Killer together with VProtect will detect and remove all of the currently known 72 families of virus (over 100 viruses in total). Because new viruses are being discovered all the time our Virus Protection Scheme will provide you with 3-4 updates of the software each year. We can also offer immediate advice by 'phone. !Killer can scan any filing system or device including floppies, harddiscs, networks, even CDRoms. All types of compressed file can also be scanned. All infected files are fully restored without having to reload from master discs or backups.



Don't wait until you discover you have a virus! Use the software that Acorn themselves use to check for viruses.

A years subscription costs just £28.20 inc vat

Low cost school and county licences available

ArtWorks Video Tutorial



A Brand new product from Pineapple is this VHS Video Tutorial covering the use of ArtWorks. Walter Briggs is the tutor for this 1 hour video which shows how to use all the ArtWorks tools and then goes on to show how Walter produced his famous Tiger head picture. Walter also draws an impressive landscape picture which can be copied by those with no artistic talent at all!

ArtWorks VHS Video Tutorial £19.99 inc vat

A4 Colour Scanners



New from Pineapple the superb IX-4015 A4 flatbed Canon colour scanner. Supplied with Imagemaster and Twain software this scanner makes the perfect companion for our Studio24 re-touching software. With a basic resolution of 400 x 800 dpi this scanner is unbeatable value.

IX4015 with Imagemaster & Twain	**£675.00**
As above + Studio24Pro	**£769.00**
SCSI interface + cable	**'phone**

Epson Colour Scanners

Also supplied with ImageMaster and Twain software these models can work on either SCSI systems or via the Parallel Port. Basic resolution of GT8500 is 400dpi and the GT9000 is 600dpi

GT-8500	**£599.00**	**GT-9000**	**£733.00**

Pineapple Software
Suites 13 & 14
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Tel 0181 599 1476 Fax 0181 598 2343
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For demonstrations of most of our advertised products why not come and visit us in our new offices (easy parking) where you can see most of the Acorn range of computers and other hardware in action.

Monday - Friday 0900 - 1730

Graphics

Graphics spectacular

ACORN WORLD was expected to reveal a variety of interesting hardware and software projects currently in development, but no one could have predicted the staggering number of graphics products and technologies exhibited.

In the area of video graphics, Eidos was demonstrating its professional on-line video editing system *Optima*, using the Millepede Apex Imager graphics accelerator.

Unfortunately, its real-time SVGA quality capture and compression were not operational, as the multiprocessor array was not fully functioning; quite understandable considering that the Simtec cards only arrived the day before the show.

Irlam Instruments, taking the hardware approach to video compression, was displaying a pre-production version of its exciting new MovingJPEG (not to be mistaken for MPEG) compression and decompression board, and Oregan released its comprehensive and well-designed *CineWorks* video-editing package – a direct attack at the *Eidoscope* suite.

Warm Silence Software had a fully interactive Quick Time VR player on show, turning many heads, including mine.

On the old bitmap front there was *The Big Picture* from Longman Logotron which, despite its simplistic interface and low-price, features some tools that even the likes of *Photodesk* and *Studio 24* have still not achieved.

Of the latter two titles, only *Studio 24* was really steady in its 'Professional' form, though without the superb CMYK support integrated into *Photodesk II* it is difficult to say how much it will attract professional repro houses.

Pineapple also released the long-awaited *Walter Briggs' ArtWorks Tutorial* video. Not much of an action movie, but inspiring and educational for anyone who wonders just how Walter creates his wonderful pictures.

The main focus of the show for me was 3D graphics. The Italians were dazzling everyone with *Top Model* and its astonishing creative modelling abilities, though the prize for speed was snatched by Aspex with its new project *DaVinci*. Paulo Rossi wryly commented that his company had spent much time finding a name which would appeal to an English-speaking market, only to find an English company giving its product an Italian name.

DaVinci is a 3D modelling and realisation project which will eventually offer four packages; *DaVinci 90, 180, 270* and finally *DaVinci 360*. *DaVinci 90* should be released at BETT and the ultimate package – *DaVinci 360* – should be around in a year or so.

There was a definite concern from both Sinchronia and Aspex that treading on each other's feet in a small market would force two very exciting and potentially groundbreaking 3D graphics packages into extinction. There is already talk of cross-product integration and possible technology sharing to help take both the products and the platform to new heights.

Another highlight was *ImageFS*² which with *Universal Image* was selling like hot cakes. Alternative Publishing is definitely on a roll with this now invaluable graphics filter and converter.

The fast PC cards being demonstrated by Acorn and AlephOne/Atomwide will be of interest to *PhotoShop* and *Corel Xara* fans. With the brilliant *PC Exchange* software from Acorn, serious PC graphics programs can integrate almost seamlessly into the RISC OS environment. *RiscBSD*, multiprocessor UNIX for the Risc PC, will also hold enormous scope for graphics, opening the way to the big but expensive CAD and ray-tracing packages available on UNIX.

Pic of the month

I CAN'T quite believe the amount of work that has gone into producing this month's winning pic, but as it takes a good minute to redraw each time on a 32Mb Risc PC, you can guess that designing it in *Draw* on a 2Mb A3010 took some effort.

It took 12 months on and off for Jack Squires to complete this image, which for a whopping £20 prize works out at 23p an hour; a true labour of love. Remember the prize also includes free slide recording from Digital Darkroom (tel: 0181-311 2001) who are great for slides even if you are not a pic of the month winner.



Apologies

We must apologise for a rather unfortunate editorial mistake that occurred in last month's issue which quoted the telephone number of Evolution Computer instead of Sincronia Soluzioni Multimediali. To set the record straight, Sincronia Soluzioni Multimediali produces *Top Model* and is on tel/fax: +39 11 53 91 73 with the address: Via San Secondo, 23/F, 10128 Torino, Italia.

DA's Picture returns

A phone call from CGS Computerbild the other day informed me that Digital Arts will be releasing a new version of *Picture*. The package has always been the one to beat in many ways, especially in the speed of its virtual memory, loading in of image files and flexibility of foreign file importation.

It has been revamped with a RISC OS-compliant user interface and has some new features including a matrix distortion tool, which sounds quite funky. Best of all, the price is being axed to £50, half the original cost. I still find *Picture* invaluable for some of its drawing and photo-retouching abilities and for the new price it would complement the software collection of any bitmap graphic artist.

Address exception

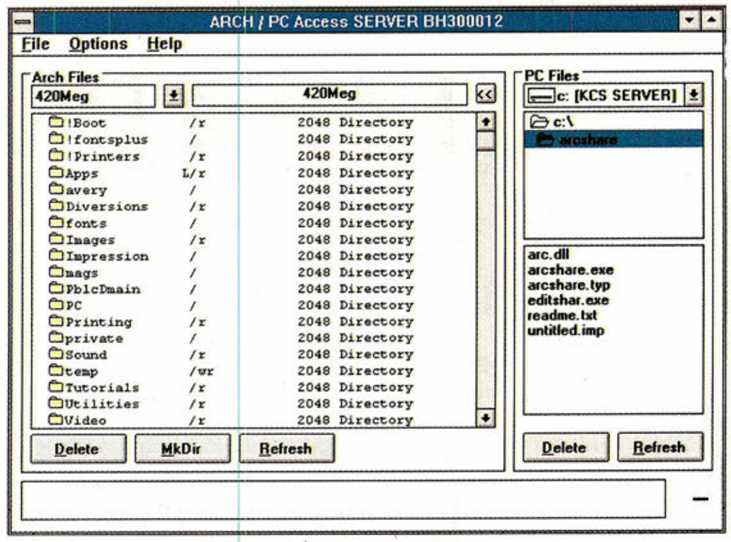
If you have been totally flummoxed as to why you cannot send me e-mail at my new address, it is probably because Argo was not able to use the address 'argo.co.uk' for its Internet and e-mail service as some technologically tuned-in fruit and veg stall somewhere has taken the name already. My actual *bone fide*, up-and-running, ready-to-receive, on-line and fully operational address (from which this copy was sent to the editor) is jack@argonet.co.uk.

Contacting me

You can contact the Graphics page by writing to me, Jack Kreindler, at *Acorn User*, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP, or by e-mail to: jack@argonet.co.uk.

Arcshare™

Acorn to PC Networking Software



Its finally happened. A company has come up with a simple and inexpensive solution to an age old problem.

Getting access to files stored on a PC has always been a problem for Acorn computer owners. There has always been Floppy Disk transfers, but these are slow and limited to 1.44Mb. There has been several attempts to "Network" the two computers together but most attempts have been problematic and needed a great deal of extra hardware.

Arcshare is the latest program from KCS which allows any Acorn computer with an Access network card to talk to any PC with a network card & Windows.

Arcshare needs no extra hardware other than cheap network cards. Arcshare is very easy to use through its graphical interface and is, on average 40 times quicker than using a floppy disk, but with no file size limitation. Arcshare can even use CD Rom drives from a different machine.

Available Now.



In the Main screen on Arcshare Client, both the Acorn and the PC directories are visible. Files can either be copied, or deleted, even new directories can be created on the Acorn from the PC. Arcshare has the advantage, that it can be run directly from the Windows Filemanager so that file manipulation is simple. Arcshare can run under a Windows for Workgroups network in conjunction with other PC's on the same network. There is no limit as to the amount of Acorns that can be seen from the PC on the Access network.

On the Acorn, the PC directories are designed to look just like any other Acorn directory. In fact, Arcshare makes the PC behave as if it were part of an Access network. Files can be copied from the PC directories to acorn directories in the normal manner. Files can even be copied from one PC to another PC via the Acorn.

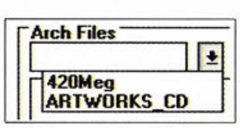
It's time to join the PC and the Acorn on the same network. Call KCS now to find out more about Arcshare and networking Acorns to PC's.

Arcshare Client v1.4

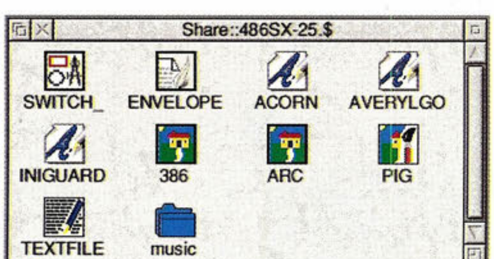
* Allows file transfers between Acorn and PC Computers.
* No Filesize Limitation.
* Automatic Filetyping when the Acorn receives a file so that the file is ready to be loaded into an application straight away.
* Automatic File Extensions added when a file is transferred from the Acorn to the PC so that the file can be loaded into a program straight away.
* Easy to Use Graphic Interface.
* No "Dedicated Server" Computer required.
* Connects directly to Acorn Access Network. Very easy to setup and install.
* Works with Windows 3.1, 3.11, Windows 95 & Windows NT

Arcshare Server v1.4

* Has ALL the Functions of Arcshare Client v1.4 but with the following additional extras.
* Allows transfers of files from the Acorn.
* When a Window is open displaying a PC directory, all the files are filetyped even though they are stored on the PC!
* Files can even be copied from PC to PC from the Acorn.
* Any Acorn on the Network can access the PC.
* Makes the PC system look like another Acorn Access system.
* Files can be loaded into applications directly from the PC.



CD Roms, Hard Drives & other Acorn Computers can be seen & used by the PC.



The PC Directory looks like just another Acorn Directory, thanks to Automatic, remote Filetyping.



Prices	
Arcshare Client v1.4	£79.00 & Vat
Arcshare Server v1.4	£99.00 & Vat

Available from:

Kimberley Computer Services. 73 Chapel Street, Leigh, Lancashire, WN7 2DA. Tel - 01942 677777. Fax 01942 672300. email - Info@kcsprem.demon.co.uk

& other reputable Acorn Dealers

Renegade north of the border

ROBIN Abecasis, Sysop of Renegade BBS in Aberdeen, Scotland, has a penchant for collecting hard discs. He owns more than he can actually use for the BBS, which is already well supplied with storage capacity. Renegade BBS runs the *Acorn User* award-winning *ArmBBS* software on a Risc PC 610 with 10Mb of RAM.

A Power-tec SCSI-2 controller, 0.5Gb SCSI-2 hard disc, dual-speed CD-ROM, a huge 1,270Mb IDE hard disc and other SCSI discs fill up Robin's busses, together with a SCSI tape streamer for backup. Renegade BBS is online 24 hours and offers all-speed connections to the latest V34plus specification US Robotics Courier modem.

A special feature of the Renegade BBS filebase is the 'mirror' archive of The C Acorn User Group Software Library, which includes some larger and more specialised software not found on the CAUG magazine discs alone.

CAUG is a special interest group of the Association of C and C++ Users, which organises local meetings, runs C/C++ related tutorials and is involved in the standardisation of the C and C++ languages. Full details of how to join CAUG can be found in its arena on Renegade BBS.

There are online games, doors and a full compliment of Acorn interest message conferences as well as a filebase of over 150Mb of Acorn utilities, graphics, comms and programming and music files. The *ArmBBS* filebase is now super-accessible by BBS users thanks to Keith Hall's latest *ArmBBS* 'FreeForm Filebase' system, which also allows easy access to CD-ROMs.

If you have any working hard discs you'd like to add to Robin's collection, I'm sure he be glad to take them off your hands.

Renegade BBS
Modem: (01224) 621956



Visiting Rob the Slob in Aberdeen.

Seen at the Show

THE Acorn World 95 show was gripped by Internet mania, and visitors were queuing to get into the Acorn Cyber Cafe. Brisk business was going on at ANT Ltd for the now-released *Internet Suite*, at the Doggysoft stand for *Termite Internet* now with nice packaging and manual, and at VTi's stand for the *Voyager* software and subscription package. Can the 'Net accommodate all the new activity, or will it be overloaded and grind to a halt?

Ready just in time for the show and the Internet-hungry purchasers of the software above was the Atomwide/Serial Port high-speed triple-serial card, now redesigned and fully compatible with all Risc PC models and V34 modems. Atomwide says it will run at up to 460,800bps. A single port card costs £79, two ports for £89, and the full three-port version is £99 (all + VAT). E-mail: sales@atomwide.co.uk.

Uniqueway's new Risc Disc 2 CD-ROM was selling well. It has a front-end based around the Freeware *ArcWeb* browser, and the CD-ROM contains over 100Mb of WWW pages, including the Acorn Web site, as well as lots more PD/Shareware, demos and useful resources. The Risc Disc 1 is also still available. E-mail: sales@uniqway.celtic.co.uk.

The Acorn Cyber Village is launched by Rheingold Enterprises and Quantum Software, and is a dedicated World Wide Web site for Acorn related companies, clubs and individuals. Web page space will be available to non-profit-making subscribers with a £10 set-up charge and only £2.50 a month for each 100K of Web space. Companies will pay only twice this, and a page design service is also planned. E-mail: alan@cybervillage.co.uk or stuart@quantumsoft.co.uk.

For those who want to design their own Web pages, R-Comp was showing *HTMLEdit*, which offers a complete HTML document creation package for Acorn users. The *HTMLEdit* editor package also includes a tutorial on HTML, a copy of the Freeware *Webster* browser and useful image and page-creation utilities. E-mail: HTMLEdit@arsvcs.demon.co.uk

Speaking Sportster

US Robotics has released a voice mail version of its popular Sportster modem, aggressively priced at £99 + VAT. This 14,400bps-max model offers telephone answering, voice mail and fax-on-demand functions when connected to an IBM PC. The Vi comes with a re-designed case at last, all cables, and a three-month free access Unipalm PIPEX Internet bundle. Acorn users can expect an *ARCfax* driver soon, and maybe even the voice mail BBS I once predicted here.

US Robotics
Tel: (01734) 228200

Smart *Fax*

Steven Kramer of Amsterdam has written a suite of **Fax** programs that can control Class 2 fax-modems, and generate and transmit the appropriate fax image data from virtually any RISC OS document whose authoring application supports the RISC OS graphics printer drivers. The package also offers multiple phonebooks, a fax manager, fax viewer and printer. You can download info and **Fax** with a WWW browser from Steven's homepage URL: http://ohm.phys.uva.nl:8080/~kramer/fax.html

HotJava jive

A new programming language based on C++ called *HotJava* – from Sun – is designed for two-way, real-time interaction on the WWW. When integrated into Web pages, *HotJava* miniprograms called Applets can enable moving graphics, animation, live updating, and real-time action and interaction with users right on the page over the network. *Java* is supported by the latest *Netscape Navigator*, and there is a group already working on a RISC OS port.

Contacting me

You can contact the Comms page by writing to David Dade, Acorn User, IDG Media, Media House, Adlington Park, Macclesfield, SK10 4NP, or by e-mail to: DaviD@arcade.demon.co.uk, or mail #2 on Arcade BBS 0181-654 2212.

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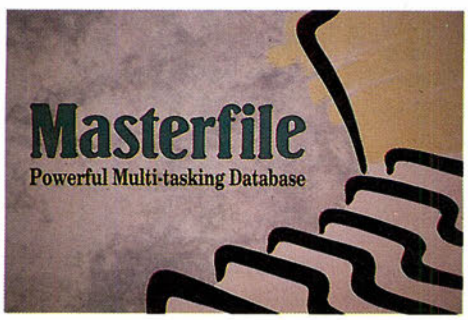
SLEUTH 2

Optical Character Recognition

Sleuth 2 is a truly professional OCR system with superb features like auto page zoning, style recognition, fully integrated spelling checker and guided editing. Sleuth converts scanned images of printed material into ASCII files and can handle virtually all popular fonts in a wide range of styles achieving over 99% accuracy on good quality images. You will need 4Mb Ram and an Acorn-compatible scanner with a minimum resolution of 300 dpi. Sleuth can scan images directly using Twain drivers, which are available separately.

SLEUTH 2 Price £99 + £1.70 Carriage





MASTERFILE

General Purpose Database

Masterfile is a fast and flexible general purpose database providing powerful data management facilities suitable for business, education and home.

Masterfile is probably the easiest Acorn database package to setup and use! Its many features include a comprehensive indexing system, subsets which limit access to just those records which match search criteria, and a report generator which allows databases to be printed in a variety of card, spreadsheet or label formats.

MASTERFILE Price £49 + £1.70 Carriage

EASY C++

C++ Development System

Easy C++ is an excellent implementation of the in-vogue object oriented programming language C++. This implementation conforms to the latest Stroustrup text and supports both Templates and Exceptions. Unlike some other implementations, Easy C++ is not a C++ to C translator but compiles C++ source directly to ARM code making it quick and easy to use.

Easy C++ uses the much praised Easy C WIMP interface which allows programs to be compiled, linked and run at the click of a button. The package includes ANSI C and IOStream libraries, Make facility, integrated ARM assembler, source level debugger and also supports Throwback. The original highly acclaimed Easy C package is also still available.

EASY C++ Price £99 + £2.70 Carriage

EASY C Price £59 + £2.70 Carriage



TYPESTUDIO

Flexible Font Effects

TypeStudio is the best selling font effects package that allows outline fonts to be manipulated to produce professional quality posters, banners, logos, letterheads etc. — the possibilities are endless.

Text may be flowed along straight or curved paths, or moulded into almost any shape. A wide range of interesting effects may then be applied to enhance the design further. These include: wall, floor and graduated shadow, 3D text, mirror, plinth, slant. You can use all of these effects on Draw files too! TypeStudio is intuitive to use, and unlike some other packages, paths and moulds may be created and edited using the drawing tools provided, so you can do all your design work using just the one package.

TYPESTUDIO Price £29 + £1.70 Carriage

HEARSAY

Advanced Communications

Hearsay is the definitive general purpose communications package for Acorn systems, designed for easy communications for the first time user, but with advanced features making it also the professionals choice.

Hearsay provides high quality VT terminal emulations, and is ideal for use with Prestel, Campus 2000, Compuserve and virtually all bulletin board systems. Other features include: background file transfer, number directory, script language and support for popular modems.

HEARSAY Price £75 + £2.70 Carriage





HARD DISC COMPANION

Reliable Hard Disc Backup

Hard Disc Companion is the acclaimed package that provides a structured system for backing up hard drives to floppy discs and other devices.

It supports Full and Incremental backups with data compression. Files to be backed-up or ignored are chosen using simple drag operations. The backup specification may be saved in a script file for use at a later date.

In the event of disc failure or accidental file deletion, files may be retrieved using simple drag operations.

COMPANION Price £45 + £1.70 Carriage

BEEBUG

Beebug Ltd. 117 Hatfield Road, St. Albans, Herts. AL1 4JS Tel. 01727 840303 Fax. 01727 860263

Please add VAT to all prices. Telephone order hotline 01727 840305

DTP

The last straw

THIS has proved a particularly hard column to complete; not because it's the last, but because I find it difficult to bash my Acorn after so long. It's like kicking your dog after it's faithfully served you for years.

The general problem is that the shortcomings of the Acorn platform have become more and more obvious over the past couple of years. The technological lead has been steadily narrowing, and the resources poured into the Acorn field have been dwarfed by the developments elsewhere.

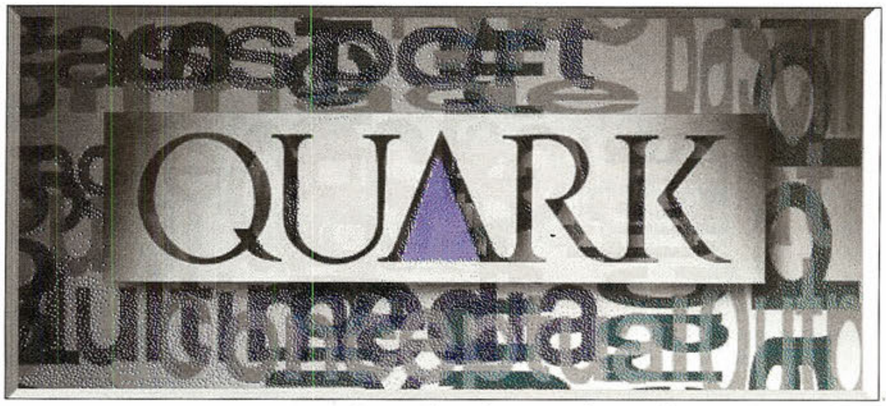
The viability of Acorn systems as a DTP/publishing platform has always been a little shaky, but it has precious little credibility left these days. Despite the imminent launch of *Ovation Pro*, the stalling of work on *Impression* and the lack of support for the new wave of publishing technologies is depressing news to anyone expecting to use the Acorn RISC OS platform professionally.

If Acorn has any plans to address any of these shortcomings they're keeping pretty tight-lipped about it, and my best efforts have failed to produce much evidence of any new tricks that the old dog's learned.

Acorn always claimed to be aiming at the jobbing printer rather than the professional repro-man and quite rightly too. The problem is that the jobbing printer wanted to be able to think he could compete with repro-man one day – admit it, you all fancy yourself as a Ferrari test-driver when you're cruising around in an Astra or Escort. Aspiration and the ability to accommodate the demands of the future undermined the best efforts of Acorn's bid for DTP stardom.

The systems are certainly capable of doing most of the work you need but they don't have much in reserve. The comparative lack of experience on the Acorn platform means they run up against the kind of problems that Quark and Apple hit 10 years ago, and the learning curve is unfortunate since the Acorn receives less than favourable attention while it is being tackled.

Acorn tried to build an entire system on just the one product (*Impression*) in the way that Apple did with Quark *Xpress*. The problem is that time has moved on, and the market expects perfect products instantly. The gaping holes in RISC OS and the problems supporting many elements of PostScript output, colour support and brand new print technologies like hexachrome have hobbled Acorn's efforts in this area.



New versions of *Xpress* and *Pagemaker* mean we're no closer to winning the game of 'catch up' than we were before.



The AB-Dick partnership with Acorn promised much, but made very little impact on the publishing market.

The new era of on-line publishing and multimedia authoring poses challenges that we're less than well placed to accommodate. The lack of a *Netscape 2*-compliant WWW client and no support for the *Adobe Acrobat* PDF mean Acorn is being left on the edge of the new publishing revolution despite its involvement in Online Media.

The advent of *Netscape* plug-ins for Adobe's PDF, *Director* and *Hot Java* means the content of the WWW is moving increasingly away from its multi-platform origins and more and more towards the all-pervasive PC.

Both these technologies are rapidly establishing themselves as a major way of distributing electronic documents, and the future of on-line learning and courseware is well staked out by the likes of *Authorware, Director* and *Toolbook*.

This poses a whole range of challenges to the Acorn platform and its supporters which are being met slowly. *Director* movie players are being developed so that the stunning Dorling Kindersley CD-ROMs will soon be available to users without a PC card.

The Microsoft Multimedia Viewer-based titles like *Cinemania* or *Encarta* may soon also be running on your ARM chip, care of an intervening bit of software gadgetry. The level of WWW accessibility is bound to increase further as new products are released almost weekly.

The problem is that all this is client-based. None of these new media publishing platforms uses the Acorn as its base. Each of these deficiencies alone isn't enough to worry about but cumulatively they will eventually break the camel's back.

The increasingly active on-line publishing and courseware markets are prime targets for those wanting to make an impact. These are the technologies that will be dominant five years from now. Acorn has, in the past, always had an uncanny knack of being there ahead of the game; let's hope it succeeds this time.

Steve Powell

The DTP page

This is the last DTP page in *Acorn User*. From next month, DTP will be covered by Jack Kreindler as part of the Graphics feature, so comments and questions should be sent to him. I will still be writing for the magazine and will be performing the occasional makeover, so if you want to contact me, write to: Steve Powell, Media House, Adlington Park, Macclesfield, SK10 4NP or by e-mail to stevep@idg.co.uk.

Showroom open Mon-Sat 10-18.00 hrs **(All prices exclude VAT)** Carriage included except where indicated

CD-ROM



The following CD-ROM's are Multi-Session, PhotoCD, CD-DA, White Book compatible & include a cable & driver for CDFS 2.20

Internal Drives

4x Speed ATAPI (IDE) (Tray)	**£130**
Above CD-ROM requires RiscPC/A7000 with RiscOS3.6.	
4x Speed SCSI (Tray) XM-5301	**£200**
The above CD-ROM drive can be used in tower mode!	
4.4x Speed SCSI (Tray) DR-U124X	**£240**
PCW Verdict - 'It's extremely quick, and a bargain.'	

External CD-ROM Drives

2x Speed SCSI (Tray) 275ms	**£199**
4x Speed SCSI (Tray) 190ms	**£280**
4.4x Speed SCSI (Tray) 150ms	**£320**

SCSI cards

HCCS 16bit SCSI card	£100
Morley uncached SCSI card	£130
Morley cached SCSI card	£169
Cumana SCSI II card	£165

Above are suitable for A300, A400, A3000 (Ext+£25), A540,

Hard Discs

IDE Bare Drives		SCSI Bare Drives	
635Mb 12ms	£150	540Mb 12ms	£145
850Mb 12ms	£Call	730Mb 11ms	£190
1Gb	£Call	1.08Gb 12ms	£280

Above are 3½" bare drives only. Please add the relavent accessories from below. Drives are Connor or Quantum. ForA3000/A3010 hard discs see Hard Card section below.

Syquest Removable SCSI Drives

Internal Drives		External Drives	
EZ135Mb Syquest	£155	EZ135Mb Syquest	£189
(Above includes cartr.)		(Above includes cartr.)	
105Mb Syquest	£150	105Mb Syquest	£210
270Mb Syquest	£259	270Mb Syquest	£329
Syquest Cartridges			
EZ135Mb Cartridge	£20	105Mb Cartridge	£43
		270Mb Cartridge	£49

Hard Disc Interfaces/Accessories

50-50C SCSI Cable	£10	25-50 SCSI Cable	£10
SCSI II-50 Cable	£25	SCSI Terminator	£10
5¼-3½ open adapt	£10	5¼-3½ HD adaptor	£12
IDE Accessories		**SCSI Interfaces**	
IDE interface	£79	Morley UnCached	£130
2nd Hard Drive Kit	£15	Morley Cached	£169
External case/PSU	£79	Cumana SCSI II	£165

TopicArt

Single disc clipart containing approx. 50 high quality draw format clip art images, each on a single subject. Comes with mono reference sheet. 20 subjects are available now. Please specify when ordering. Site licences are £16+VAT per disc, please ring for further details.

New CD-ROM!
£34+VAT

Contains over 2000 ClipArt files, each in Draw, ArtWorks & EPS formats + other demos.

Floppy discs £8 + VAT each

Single Floppy disc subjects available (one disc per subject)

1 General	11 Tools
2 Transport	12 AnimalsGB
3 Costumes	13 Chem Signs
4 Entertainment	14 Fire/Emerg Sn
5 Bugs 2 Slugs	15 Hazard Signs
6 Road Signs	16 Safety Signs
7 Sports Equip	17 Xmas1
8 Sports Figures	18 Xmas2
9 Dinosaurs	19 Xmas3
10 Symbols	20 Xmas4



TopicArt catalogue available. £1.50 Inc VAT/p+p (cheques only)

New Machines

New Acorn Computers

All RiscPC's include 1yr on-site maintenance. **0% finance available, ring for details.** We operate Acorn Assist for teachers & academics. **For PC 486 Card add £99+VAT to following prices.**

Acorn A7000 (32MHz ARM7500)

Network or hard disc versions, podule slot, free SIMM skt

A7000 2MNET + AKF60	£892
A7000 2MHD425 + AKF60	£935
A7000 4MHD425 + AKF60	£1020

RiscPC600 (33MHz ARM610)

Hard disc, backplane not fitted, free SIMM & VRAM slots.

4MHD425 + AKF60	£1148
4MHD425 + AKF85	£1426

RiscPC700 (40MHz ARM710)

Hard disc, 2 or 4 podule slots, one free SIMM socket.

5MHD425 + AKF60	£1360
5MHD425 + AKF85	£1638
10MHD850 + AKF60	£1692
10MHD850 + AKF85	£1970

Add £111 to above for 2X CD-ROM

20/20 Finance

on Acorn Systems (0%APR)

20% deposit (min) and 20 interest free monthly payments. Available subject to status. Ring for details.

CD-ROM Drive Options

Acorn 2x CD-ROM Drive (IDE)	£111
4x CD-ROM Drive ATAPI (IDE)	**£120**
4x Speed SCSI (Tray)	£320
4.4x Speed SCSI (Tray)	£360

Above SCSI CD-ROM's include Morley uncached SCSI card, driver and cables. Add £39 for SCSI 2. Above prices only apply when purchased with an A7000 or RiscPC.

RiscPC Multimedia CD-ROM Pack

Includes 25W stereo speakers, Hutchinsons Encyclopedia & The RiscDisc Vol.1 together with one of the following CD-ROM drives.

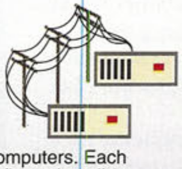
4X Speed ATAPI CD Pack	£200
The above can only be used on RiscOS 3.6 machines.	
4X Speed SCSI CD Pack	£390
4.4X Speed SCSI CD Pack	£430

The SCSI Pack includes a Morley Uncached SCSI Card. Add £40 extra for Cumana SCSI 2 Card.

QuickLynk

New Product

Software only	**£28**
Software & Local Cable	**£Call**



QuickLynk allows you to automatically access another Acorn RiscOS computer remotely using the serial port via modems or locally using a cable to connect the two computers. Each computer can be configured to allow access to any attached filing system device eg ADFS, IDE, SCSI, CDFS, etc. Once connected, files can be transferred to/from the remote computer. Other features include password access, auto dialler with phone book and chat mode to send messages to remote computer/user. Ring for further details.

Special Offers

(Whilst stocks last)

A3010 (2Mb RAM)

With Action Pack comprising, Zool, StartWrite and other demos.

£180+VAT

For AKF53 Monitor add
£235+VAT

Carriage is included on above.

Mail Order - 0161-474 0778 **(All prices exclude VAT)** Carriage included except where indicated

A3010 Series

A3010 Action Pack 2Mb RAM	£180
A3010 Learning Curve 2Mb RAM	£250
A3010 Early Years 2Mb RAM	£210

Add £250 to A3010's for AKF53 Monitor. Carriage £6+VAT on A3010 systems.

A3020/A4000 Series

A3020 2MFD/AKF53 MultiScan System	£509
A3020 2MFD/AKF50 MultiScan System	£549
A3020 2MHD80/AKF53 MultiScan Sys	£637
A3020 2MHD80/AKF50 MultiScan Sys	£677
A4000 2MHD210/AKF53 MultiScan Sys	£722
A4000 2MHD210/AKF50 MultiScan Sys	£762

Software Packs

Learning Curve Advance & PCSoft	**£42**
Early Years Talking StartWrite, Paint Pot Flossy the Frog, Mouse in Holland, etc.	**£42**
Home Office EasiWriter2, DataPower, Pipedream4, PCSoft	**£85**

The above packs are ONLY available with a computer system, (not including the A3010)

RiscPC Upgrades

PC486SX33 Card (when purch. with RPC)	£99
PC486DX2-66 Card	£249
PC486DX4-100 Card	£299
Microsoft Windows '95 (CD-ROM)	£70
16 bit Sound Card (ESP)	£60
2nd Slice Case Upgrade (Carr. £6+VAT)	£99

Memory Upgrades

RiscPC Memory, please ring to confirm prices

4Mb SIMM	£105	8Mb SIMM	£205
16Mb SIMM	£350	32Mb SIMM	£Call
1Mb VRAM	£129	2Mb VRAM	£169
1-2Mb VRAM Upgrade (exchange)			£109
A3000 Memory			
1-2Mb RAM	£55	2-4Mb RAM	£90
1-4Mb RAM	£129		
A3010 Memory			
1-2Mb RAM	£40	2-4Mb RAM	£105
1-4Mb RAM	£145		
A3020/A4000 Memory			
2-4Mb RAM	£89		
A5000 Memory			
2-4Mb RAM	£89	4-8Mb RAM	£259
A300/400 Series			
4-8Mb RAM	£249		

Monitors

Acorn AKF53 14" 0.39dp MultiScan	£250
Acorn AKF50 14" 0.28dp MultiScan	£318
Acorn AKF60 14" 0.28dp MultiScan	£325
Acorn AKF85 17" 0.28dp MultiScan	£530
Ilyama MF-8617A 17" 0.26dp M/Scan	£549
Older computers will require an adaptor	£12

Printers (Include Cable)

Canon BJ-200ex (360dpi)	£185
Canon BJ-230 (360dpi)	£Call
Canon BJC-600e Colour (360dpi)	£360
Canon BJC-4000 Colour (360dpi)	£240
Epson Stylus Colour Printer (720dpi)	£Call
HP LaserJet 5L 4ppm (600dpi) New!	£Call
HP LaserJet 5P 6ppm (600dpi) New!	£630

Add £40 to above printers for TurboDriver

RiscOS 3.1 Upgrades

Single Rom set (fitting instr./no discs)	£34
3 Rom sets (fitting instr./no discs)	£79
10 Rom sets (fitting instr./no discs)	£255
Documentation (Guide & Discs) (0% VAT)	£29
Carrier board for A300/A440	£22

Portable Computers

Acorn A4 Portable			£1149
Pocket Book II (256k)			£205
Pocket Book II (512k)			£255
Pocket Book II (1Mb)			£285
Psion 3a (256k)	£199	Psion 3a (512k)	£249
Psion 3a (1Mb)	£270	Psion 3a (2Mb)	£320
A-Link	£42	PC Link	£60
Parallel Link	£26	Mains Adaptor	£15
128k RAM SSD	£43	512k RAM SSD	£105
256k Flash SSD	£47	512k Flash SSD	£77
PB/Ps3 Games	£Call	PBII/Ps3a Games	£45

Hardware Upgrades

24i16 Multimedia Card (512kb framest.)	£339
24i16 Multimedia Card (1Mb framestore)	£379
486sx25MHz Bare PC Card	£299
486SLC50MHz Bare PC Card	£349
Refer to RiscPC memory to add to PC cards.	
FPA Upgrade for ARM3	£59
Colour Card Gold (CC)	£199
Eagle M2 Multimedia Card (CC)	£319
Joystick Interface (all m/c's)	£28
Logitech Mouse (Acorn)	£25
Midi Max Card (CC)	£68
Movie Magic (CC)	£249
Powerpad (dual) (Gamesware)	£33
Scart - 15pin Monitor/RGBTV cable	£12
Serial Upgrade for A3000 (Acorn)	£19
Stereo Speakers 25W (mains powered)	£35
Stereo Speakers 80W (mains powered)	£50
TV Tuner with TeleText (CC)	£157

Modems

Add £99+VAT for ANT Internet Suite.

Sportster Modem Bundles

Modem bundles include a Sportster modem, cable, phone splitter, ArcTerm7 & ArcFAX.

14k4vi Sportster Fax/Modem Bundle	£200
28k8 Sportster Fax/Modem Bundle	£265
V.34+ Courier Fax/Modem & cable only	£345

Sportster Modems

14k4vi Sportster Fax/Modem & cable only	£130
28k8 Sportster Fax/Modem & cable only	£190
V.34+ Courier Fax/Modem & cable only	£270

I³ Networking

A30X0 EtherLan 102 10Base2/T	£125
A3020/A4k EtherLan 200 10Base2	£135
A3020/A4k EtherLan 201 10BaseT	£135
A300-A5k EtherLan 502 10Base2/T	£125
RiscPC/A7k EtherLan 602 10Base2/T	£105

For Access+ add £15 to above prices.

Scanners/Digitisers

ScanLight Video 256	£199
Canon IX-4015 Colour SCSI Scanner	£609
Epson GT-8500 Colour SCSI Scanner	£525
Above includes !TWAIN/ImageMaster & Cable	
Vision24 Colour Digitiser	Int £69/Ext £94
Hi-Vision24 Digitiser A5000	Int £94/Ext £119

Hard Cards/Multi-Pods

A3010 HCCS Hard Disc Multi-Podule	
80Mb + User Port + 2 Slots	£186
130Mb + User Port + 2 Slots	£269
160Mb + User Port + 2 Slots	£319
A3000 Internal IDE Hardcards	
80Mb + User Port	£156
130Mb + User Port	£219
160Mb + User Port	£279

See top of page for other hard discs.

Printer Consumables

BJ-10 Ink Cartridge (BC-01)	£16
BJ-200 Ink Cartridge (BC-02)	£17
BJ-300 Ink Cartridge (BJI-642)	£15
BJ-600 Black Cartridge (BJI-201bk HiCap)	£10
BJ-600 Colour Cartridge (BJI-201)	£8
BJC-4000 Black Cartridge (BCI-21Bk)	£9
BJC-4000 Colour Cartridge (BCI-21C)	£17
BJC-4000 Fast Black Cartridge (BC-20)	£25
BJ-800 Black Cartridge (BJI-643)	£16
BJ-800 Colour Cartridge (BJI-643)	£20
DeskJet500 Mono/Colour Cartridge	£20/£23
EP-L Toner (LBP-4/HP LJIII)	£59
Epson Stylus Colour Black £16/Colour	£30
HP 92274A Toner (HP LJ4L)	£59
JP-150 Ink Cartridge (Acorn)	£22
Swift24 Mono/Colour Ribbon	£7/£15

Books (No VAT)

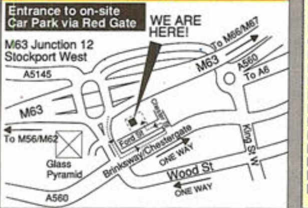
Acorn RISCOS3 PRM's **Add £7 carr.**	£99.95
Acorn 5th PRM covering RiscOS3.5	£29.95
Acorn BBC Basic VI Guide	£19.95
RiscPC Tech Ref Guide **Add £7 carr.**	£29.95
ArtWorks Made Easy (Dabs)	£10.00
DTP on the Archimedes (Sigma)	£12.95
First steps in prog RiscOS (Sigma)	£14.95
Game Maker's Manual (Sigma)	£14.95
RiscOS 3 First Steps (Dabs)	£10.00

Add £2 Carr to above (£4 for Acorn books)

Terms

EC residents add 17.5% VAT to all prices except books. Carriage free in UK (excluding remote areas) (except books), elsewhere at cost. Orders MUST be accompanied by a phone number. Prices and spec's subject to change without notification. Goods subject to availability. Goods not offered on trial basis. Restocking fee on non-faulty returns. Official orders welcome from educational institutes, chq with order under £30. E&OE.

Where to Find Us



CD-ROM's

ArtWorks on CD (CC)	£130
Childrens Micropedia CD	£85
ClipArt CD 1/2 (CC)	£19 each
Encarta '95 for Windows	£Call
Granny's Garden CD	£28
Hutchinsons Encycloped'	£40
Replay Starter Kit (Acorn)	£37
RiscDisc Vol 1 CD	£17
RiscDisc Vol 2 CD	£17
Simon the Sorcerer CD	£36
TopicArt CD-ROM	£34

Applications

Advance 2Mb (Acorn)	£99
Advantage (Longman)	£46
ANT Internet Suite (ANT)	£99
ArcFax (David Pilling)	£28
ArcTerm7 (Serial Port)	£58
ArtWorks (CC)	£120
AudioWorks (CC)	£45
C/C++ (Acorn) (£7 Carr)	£213
CADet (Minerva)	£99
Card Shop (Clares)	£19
Chameleon 2 (4Mation)	£33
Compl. Animator (IOTA)	£79
Compression (CC)	£29
DataPower (IOTA)	£123
Desktop Thesaurus (BB)	£19
Digi. Symphony (Oregan)	£48
Disc Rescue (Look)	£28
Easy C++ (Beebug)	£93
Eureka v3 (Longman)	£93
FireWorkz (Colton)	£89
FireWorkz Pro (Colton)	£139
Font Dir (Look)	£28
Font FX (DataStore)	£10
Glimpse (Sherston)	£10
Graphics Loaders (CC)	£42
Hard Disc Comp. (BB)	£42
Hatchback (4Mation)	£32
Hearsay II (Beebug)	£75
Home Accounts (Minerv)	£28
HTML Edit	£25
Illusionist (Clares)	£40
Image Outliner (IOTA)	£46
Impression Publisher	£120
Impression Publisher+	£259
Impression Style (CC)	£75
InterTalk (Acorn)	£78
MacFS (CC)	£76
MacFS Lite (CC)	£45
Magpie (Longman)	£50
Morpheus (Oregan)	£32
Night Sky (Clares)	£63
Notate (Longman)	£54
Ovation (Beebug)	£79
PenDown Plus (Long)	£67
Personal Accounts (Apr)	£38
PhotoDesk (Spacetech)	£157
PhotoTouch (Oregan)	£68
Pin Point Junior (Long)	£25
Plot (Clares)	£63
Poster (4Mation)	£74
ProArtisan 2 (Clares)	£102
Prophet (Apricote)	£145
PublishArt (SmartDTP)	£29
Recordz (Colton)	£97

Applics (Contd)

Resultz (Colton)	£75
Rhapsody (Clares) v3	£74
S-Base2 Personal (Long)	£48
S-Base 2 Developer	£98
S-Base 2 Developer+	£147
Serenade (Clares)	£75
ShapeFX (Datastore)	£10
Sibelius 6	£149
Sibelius 7	£789
Sleuth (Beebug)	£50
Sleuth2 (Beebug)	£93
Snippet (4Mation)	£32
SparkFS (Pilling)	£21
Speech 2! (Superior)	£22
Studio24 (Pineapple)	£120
Touch Type (IOTA)	£38
TurboDriver BJ (CC)	£42
TurboDriver HP (CC)	£42
TurboDriver Epson (CC)	£42
Tween (Ace)	£28
TypeStudio (Beebug)	£43
Vector (4Mation)	£75
WordWorks (CC)	£36
Wordz (Colton)	£54

Games

Air Supremacy (Sup)	£13
Alone in the Dark (Kris)	£22
Arcturus (Oregan)	£20
Axis (TBA)	£20
BattleChess (Krisalis)	£22
Birds of War (4D) 2Mb	£23
Black Angel (4D)	£23
Blood Sport (Matt Black)	£12
Break 147/Superpool	£23
Burn Out (Oregan)	£20
Cannon Fodder (Krisalis)	£20
Carnage Inc (4D)	£18
Champions (Krisalis)	£22
-Includes Man Utd, J Khan	
- Squash, Wld Class	
- Leaderbrd & Boxing Mngr	
Chocks Compendium	£23
Chopper Force (4D)	£22
Chuck Rock (Krisalis)	£10
Crystal Maze (Sher)	£17
Cyber Chess (4D)	£23
Cygnus Collection	£20
- Incl Twin World, Iron Lord &	
- Tower of Babel	
Diggers (Millenium)	£22
Dreadnoughts (Turcan)	£26
Dune II (Eclipse)	£27
Dungeon (4D) 2Mb	£23
Elite Gold Edition (Hyb)	£25
Enter the Realm 2Mb	£13
E-Type Compend. (4D)	£13
E-Type 2 (4D)	£23
Fire & Ice (Times Warner)	£20
Flashback (US Gold)	£22
FTT (TBA)	£20
GODS (Krisalis)	£10
Guile (Dream)	£22
Haunted House 2Mb	£18
Heimdall (Krisalis) 2Mb	£22
Hero Quest (Krisalis)	£22
Holed Out Compendium	£13

Games (Contd)

James Pond (Krisalis)	£10
James Pond 2 RoboCod	£20
Krisalis Collection	£22
-Includes, Mad Prof, Pipe'm,	
- Terramex & Revelation	
Lemmings (Krisalis)	£19
Lemmings for RiscPC	£22
Lemmings 2 Tribes 2Mb	£22
Lotus Turbo Chall2 (Kris)	£19
Magic Pockets (Reneg)	£20
Magnetoids (Oregan)	£22
Man United Europe (Kris)	£10
Oh No More Lemmings	£16
Pandora's Box (4D)	£13
Playitagain Sam 1/2/3	£19ea.
Populous (Krisalis)	£22
Premier Manager	£20
Real McCoy 2/3/4	£24ea.
Repton 3/4 (Superior)	£19ea.
Sally & Wally (Oregan)	£20
Saloon Cars Deluxe (4D)	£23
Scrabble (US Gold)	£21
Sim City (Krisalis)	£23
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Access VISA SWITCH Xmas

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Desktop tools

WITH neither sight nor sound of RISC OS 4 appearing, PD coders are continually adding features to the Desktop. A lot of utilities add a brand new feature to help you out, but many steal ideas from other operating systems, as is the case with *CoolSwitch*.

Stealing ideas from Windows on the PC doesn't seem an incredibly great idea when you've already got something as user-friendly as RISC OS on your computer. However, Andy Armstrong seems to have found one of the few redeeming features of Windows and enhanced it nicely for use on Acorn machines.

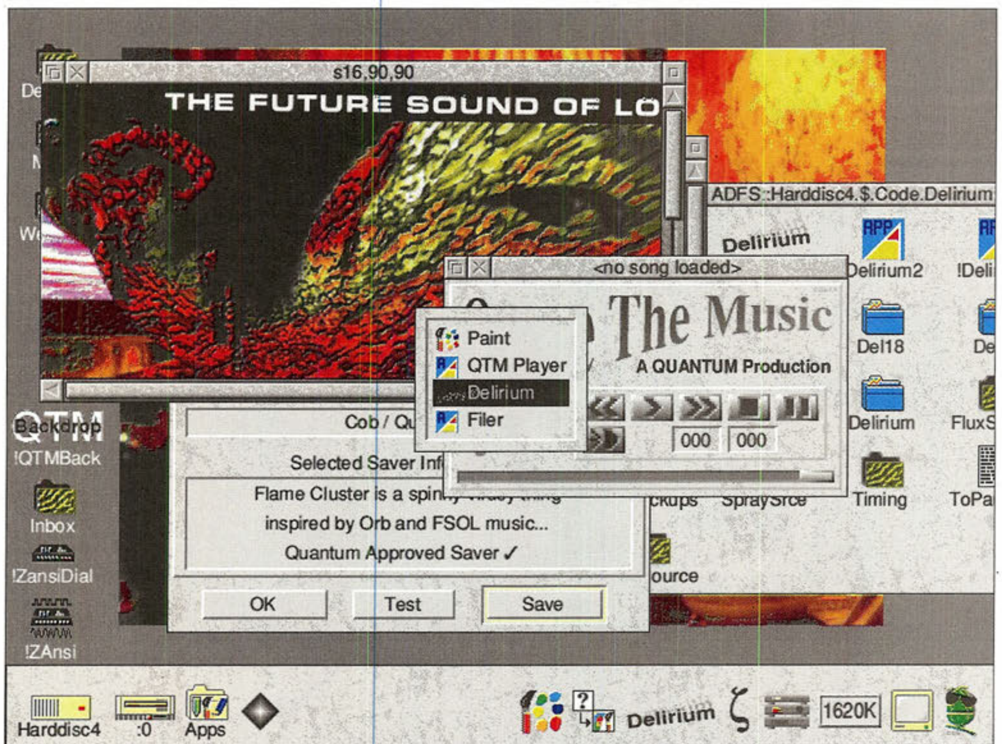
CoolSwitch is brought into action by holding down Alt-Tab. A special selection window immediately pops up with a list of current windowed tasks in the desktop. Any item can be selected by holding down Alt and toggling through the list with Tab.

Selecting a task brings the window to the front, with no need to flick hundreds of other windows to the back. *CoolSwitch* is fast, easy to use and straight to the point. A classic example of great PD. It is available from the Datafile PD and the Digital Databank BBS (and is on one of the *Acorn User* PD subs discs).

Desktop trash can programs have always remained the best way to manage discarded files. *BlackHole*, reviewed elsewhere in this issue, is regarded as the best program of its kind to use. *SafeDel* takes a different approach, and safeguards your files in a simple and straightforward way.

When started, *SafeDel* creates a trash directory on your hard disc and promptly moves any files deleted with the Filer to this area. Unfortunately there's a lack of management features, but this does make it very easy to use. If you find you're losing files that you didn't really mean to delete, this program is for you.

SafeDel is on the October subs disc from APDL.



CoolSwitch allows you to swap between applications with open windows.

Bit of a show

FOR me, the highlight of any Acorn show is meeting all those people you've chatted to by e-mail or on the phone, but never actually met in person before. I seemed to spend so much time chatting to people that I hardly looked round all the stands properly.

One team of coders provided a welcome distraction to events on the Acorn stand by running its latest demo, *Lunatic*, on a free A4000. Unfortunately this impressive display of new effects by Archiologics doesn't run for long on a Risc PC, so I'll have to wait until next issue to cover it in depth.

The Datafile did a roaring trade at the show and was, as always, an excellent place to meet coders and PD enthusiasts. It's great to see a PD stand in the middle of such a hive of activity while many commercial stands failed to pull the crowds.

The Datafile is offering a special deal to anyone who hasn't already tried the library. All you have to do is contact Dave or Sue on (01934) 823005 for a free copy of the complete catalogue and ordering system.

Sick

Irish group Sick grabbed much attention several years ago, with some unusual demos and a few other programs which nearly made it commercial. *Scorpius* only made it to demo stage before being put on hold, and there was hope of a full release of the group's ray tracer – *Powershade*. Sick is also responsible for *Tetris*, one of the most popular *Tetris* variants on the Acorn.

The two key members of the group, Conrad and Merlin Hughes, are still interested in getting out some software, but have had to put their projects on hold in favour of their University studies. However, the group hopes to release a fully working PD version of *Powershade* at some point. From what I've heard, it should be well worth waiting for.

Acorn Demo Web Site

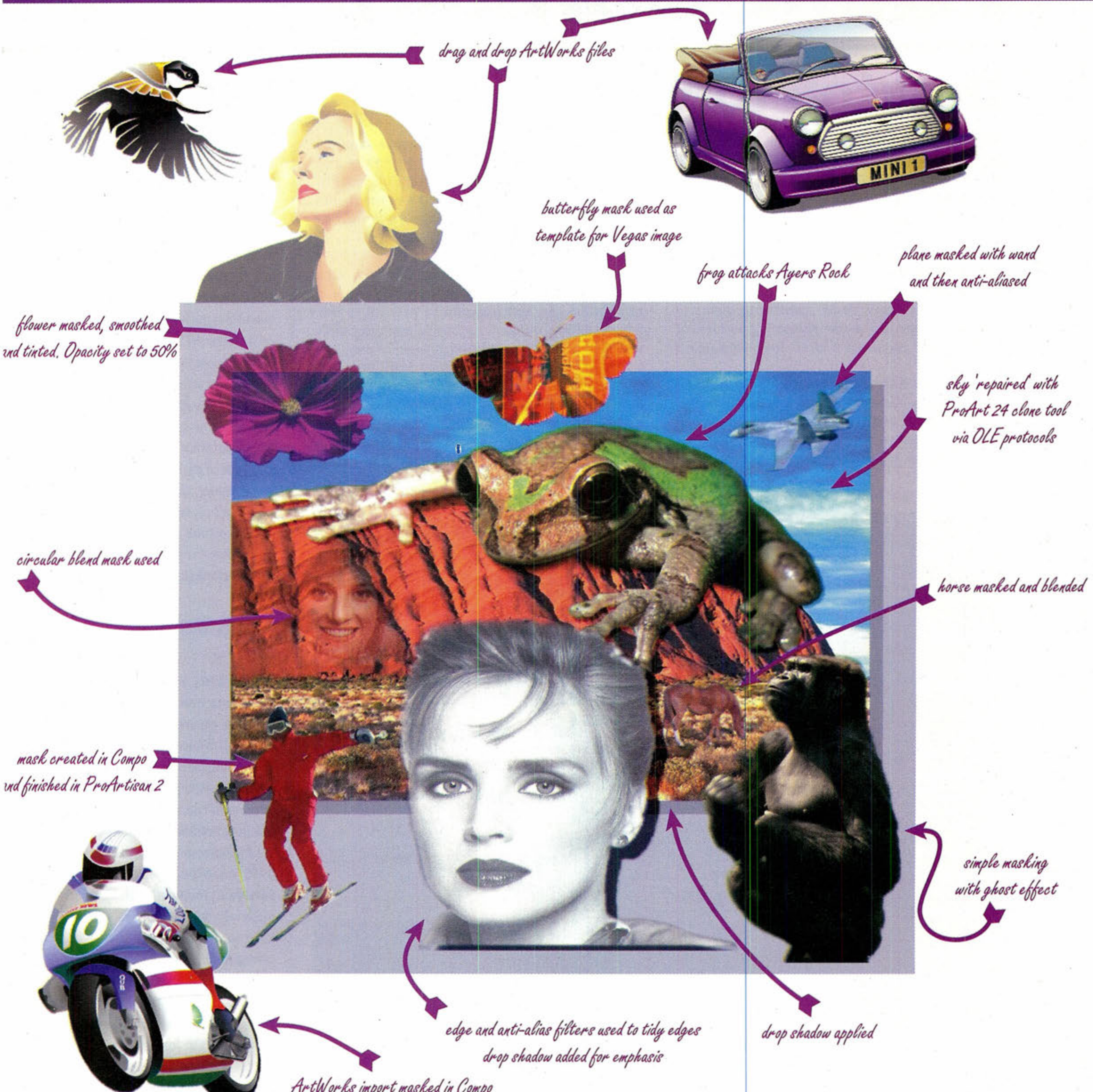
Frederic Elisei, the prolific demo author and front man of Arm's Tech, has greatly extended his web site, to become the centre of information for Acorn Demo watchers. As well as featuring information on Arm's Tech, the site now holds information on all the main Acorn demo groups. BASS, Armaxess, Xperience and Sick are all featured, with much more information to come, and a large section is devoted to my own group Quantum.

The site is still growing, and by the time you read this will be a wealth of information and a nice complement to Joe Oldak's Acorn games pages, which are currently seeking a new server on the net. Frederic's demo site can be found at: http://droopy.imag.fr/~elisei.

Contacting me

You can contact the PD page by writing to me, Paul Wheatley, at Acorn User, IDG Media, Media House, Adlington Park, Macclesfield, SK10 4NP. Or preferably, by e-mail to quantum@digibank.demon.co.uk or online on the Arcade BBS.

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Education

The new education disc

If you take out a one-year subscription for *Acorn User*, you can pick one of several free gifts. Last year, one of the gifts was a disc packed with goodies which was aimed primarily at teachers, although the contents were intended to have been useful to others including parents whose children are not fortunate enough to use Acorns at school but have one at home.

Judging by the comments I received, the education disc proved very popular and I'd like to thank all those who sent in messages of praise. Because of its success, this year we're offering two 1.6Mb discs (that's effectively four times the size of last year's) packed with compressed educational material. As before, the discs are available as a free option to all those who subscribe to *Acorn User* magazine.

Disc 1 contains an assortment of files including animations which show how to form all 26 lower case letters of the alphabet and numbers 0 to 9. If placed on a computer in a primary classroom, pupils could use them when learning to write.

Also included are updates of the template files for secondary students to use to produce their National Records of Achievement. These files have been extensively reworked for this year's disc and are offered with a 15 page onscreen help file produced using iSV's *Inform*.

This on-screen help file is aimed at students and should enable them to produce their NRAs with little input from the teacher.

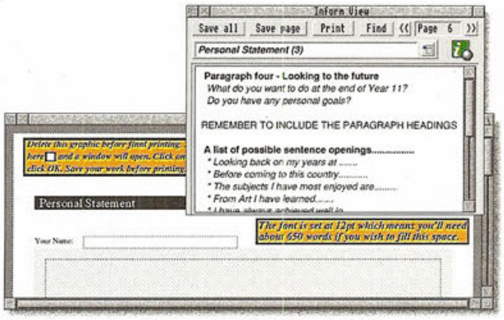
I believe these files alone are worth the subscription for anyone who is involved with National Records of Achievement – and that should be every secondary school in the country.

Disc 2 is a multimedia presentation (created using Semerc's *Ultima*) detailing ten CD-ROMs and 10 disc-based programs which have been reviewed during the last year. In my opinion these programs represent some of the best software for the Acorn platform and I believe they should be in every school.

The discs are available on four 800K discs for subscribers with older machines.



36 animations show how to write the letters of the alphabet and numbers – a testament to the simplicity of *SnapHappy* by Dial Solutions (available from Semerc).



Nine templates (*Impression Publisher/Style*) and an on-screen help application make this a must for producing NRAs.

Sherston's licence bonanza

Following the success of its recent schools site licence bonanza Sherston Software has decided to extend the offer indefinitely. Sherston's 'value for money' pricing policy has always been popular with UK schools and the recent substantial reduction in the cost of site licences has encouraged many schools to buy site licences who previously wouldn't have been able to afford them.

Commenting on the extension of the site licence offer, Sherston's managing director, Bill Bonham, said: 'Our customer research left us in no doubt that schools would much prefer to purchase site licences for many of our products, thereby allowing them greater flexibility of use within the school. Our site licence conditions also allow teachers to use the software at home to help with their lesson preparation.

'Sherston's customer research also showed that cost was a major factor in schools not purchasing site licences, hence the special offer.'

The site licence pricing formulae are 1.5 times the single user price for primary schools and 2 times for secondary. So, for example, a primary site licence for the recently released *Mission Control: Crystal Rain Forest 2* (single user price £44.95 + VAT) would cost £67.42 + VAT.

This is good news for schools, particularly primary schools, whose budgets are limited to say the very least.

Sherston Software
Tel: (01666) 840433

E-mail contacts

Further to my suggestion for contacts for setting up electronic pen pals (see December issue) this month's e-mail addresses which may be contacted by any school in the world are:

Institution No. 1: Wath Comprehensive School
Location: Rotherham, South Yorkshire
Age range: 11 – 18
E-mail address:
penpals@wathcomp.demon.co.uk

Institution No. 2: Underhill Junior School
Location: Maidstone, Kent
Age Range: 3 – 11 mixed
E-mail address:
grant@chart.demon.co.uk

Martin Angove (martin@ripbbs.demon.co.uk) works for Red Dragon Radio in Cardiff, part of the second largest radio grouping in Britain whose stations include Red Rose (Preston), Piccadilly (Manchester), City (Manchester), Aire (Leeds) and Kiss (London). Martin will be pleased to hear from anyone interested in learning more about local radio.

Jonathan Gutteridge (jonanthang@starnet.demon.co.uk) is 14 years old and lives in Norwich. He is eagerly awaiting some contact from someone anywhere on the planet.

BETT '96

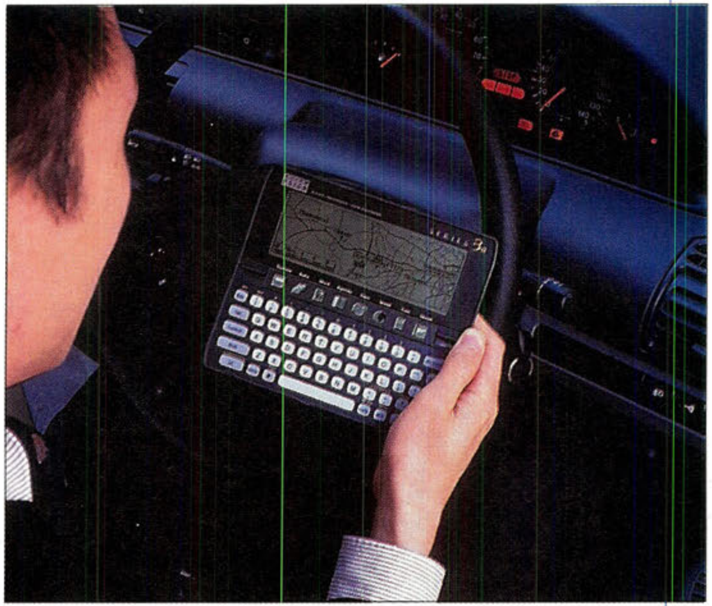
The BETT show will be from 10-13 January 1996, and all teachers and parents are welcome, although parents are encouraged to register through their child's school. I will be writing a preview of the show in the next issue, highlighting all the new releases.

Ticket Hotline
Tel: 0171-388 2430

Contacting me

You can contact the Education page by writing to me, Geoff Preston at Acorn User, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP or by e-mail to:
gpreston@arcade.demon.co.uk

Driving with your Pocket Book



Don't try this while driving – the police will take a dim view.

MICROSOFT, fresh from being conspicuous by its absence from Acorn World, has just announced the release of *AutoRoute Express* for the Psion 3a and Pocket Book II. *AutoRoute* is a route-planning package which has a map of the UK stored, from motorways down to such detail as B-roads.

AutoRoute knows about 7,200 locations, and will plan the best route between them. It's a flexible package, and allows you to adjust your route depending upon whether you want the fastest or the shortest, and you can specify preferred destinations along the way. It will estimate journey times based on average speeds for a particular type of road and will even give a cost for the journey.

A journey is presented in two forms: a list of directions and a map. The detail on the map can be zoomed in – it won't go quite as far as the back streets of a town, but it will show the major roads – and you can plot progress. The list of directions gives a time, distance, instruction, road number, even compass bearing for each road change.

There is also an American version, *Automap Road Atlas*, with 6,000 locations and over 420,000 miles of roads. The bad news is that *AutoRoute Express* will only work on Psion 3a or the Pocket Book with 512K or more. It is inevitable that as higher-memory palmtops become available, more powerful applications will be developed to take advantage of them; the fact that Microsoft has squeezed *AutoRoute Express* into even the 512K version is impressive.

AutoRoute Express should be available now from all normal Psion stockists (Boots, Argos, WH Smith and that favourite with *Acorn User* readers Dixons), and costs £69.95 inc VAT.

Psion PLC
Tel: 0171-258 7368
Fax: 0171-258 7340

No new A4

SHORTLY after Acorn's radical restructuring announcement it was announced that Acorn had no plans to scrap the A4's replacement; unfortunately, as reported last month, Acorn changed its mind, deciding that there would be no market for the product.

It promised to be the cutest Acorn yet. Based on the excellent Olivetti Echos subnotebook it had the latest ARM7500 composite chip, PCMCIA mini expansion card port and the prospect of colour LCD screens. PCMCIA expansion cards are credit card-sized podules which can perform many tasks. The podules currently available include Ethernet cards, fax and data modems and internal hard discs. The latest version of RISC OS includes *Access* support and a TCP/IP stack and so by plugging an Ethernet card into your notebook, data transfer would have become simple.



The Olivetti Echos subnotebook.

The project may still go ahead if there is demand from some other quarter, but Mike O'Riordan's Acorn Education division has confirmed that it doesn't have a viable market for a portable and so won't be ordering any. It really depends on whether or not ART can find an alternative taker. While it is regrettable that the project has been shelved, it is certainly doubtful whether much of the Acorn market would actually have bought one.

Racing Pocket Books

Pocket Books have many uses, but one that does not spring to mind is as a Data Logging System for an 80mph 100cc kart.

The system is based on a *Kartronix Data Logging Unit* which records the engine speed of the kart in RPM. This data can then be downloaded onto a Pocket Book where a graph of engine rpm against time can be plotted. This allows visual analysis and comparison of laps to be made as well as analysing chassis handling, speed and braking points.

The Pocket Book can also be used to time the kart and can automatically put start and finish markers into the data to enable users to know exactly which part of the track they are looking at. All the data collected can, if required, then be uploaded onto any PC for further analysis.

Thanks must go to Paul Collins for providing me with the above information. I hope the system has proved useful for the karter, Andy Collins, and wish him the best of luck for the future.

'Tis the season to be merry...

Christmas is coming and if you are having problems deciding which wine to buy for the festive season, *Hugh Johnson's Wine Guide* may be the answer.

The database contains details on over 6,000 wines from over 30 countries. Each record contains details on the wine's taste, history and the vineyards in which it may have been produced. The database also recommends which should be drunk with over 250 different meals.

Users can add their own varieties to the database and wines can be accessed by name, region, type, quality and taste. The guide is published by Psion plc and costs £39.95 inc VAT.

Contacting me

You can contact the Portables page by writing to me, Mark Taylor, at *Acorn User*, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP or by e-mail to markt@idg.co.uk.

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Global Effect demo

by Eclipse

EVER watched the world leaders meeting at summits in exotic places like Rio and thrown up your hands in horror thinking 'I could do a better job than that'? Well, now's your chance, with this demo version of the game *Global Effect* from Eclipse.

In this game you play the ruler of the world (in the full game you share this with a computer player, which is much harder) and your job is to keep the environmental balance of the world healthy. This is not as easy a task as it might seem, and unless you are careful you will soon find your CO_2 levels and temperature soaring.

One problem which you will very quickly encounter is that in order to do anything at all you need a store of power. Your power is indicated by the large blue bar on the left of the screen – the number of lit up circles below it indicates the number of power bars left. You need power not only to build, but also to move around the map, so use it wisely. Your power is replenished more quickly if you have a healthy environmental balance (the small yellow bar below the power store) and if you are doing well economically.

Of the four globe icons in the top right of the screen, the only one of interest in the demo is the environmental and economic data menu. This brings up a second window allowing you to see how your decisions are affecting the global balance on your world, and also to open a world map showing the position of your large-scale window onto the world. Of course, if you are used to navigating you can work this out anyway from the longitude and latitude.

Below the four globes is the tool selector. On this you can choose from 30 tools arranged in a continuous strip which wraps round so that constantly moving to tool bay left will eventually get back to the tool you first thought of. Most are fairly self-explanatory – if you build something you can always use the 'question mark' tool to find out about it.

To return to the Desktop, click on the 'quit' button in the top left of the screen. When you restart, you will re-enter the game from the point at which you left, unless you quit the game from the icon bar menu. Because the game saves data as it goes along, it must be run from a disc which is not write-protected.

To start a game from scratch, choose the 'Setup...' option from the icon bar menu, which will take you to the setup screen of *Global Effect*. The 'Options...' entry allows you to turn on sound which is initially disabled in this demo since it does not work on machines with 16-bit sound yet.

The full game is available from Eclipse for £34.99 and features many more worlds and scenarios. In the demo you can only play the Pangea and Forested starting scenarios along with the Post Industrial and Global Warming worlds from 'Save a world', although you can find out what the other scenarios involve. In addition, in the full game you can play against the computer using battle options if you wish; this is of course much harder because all your good intentions can be thwarted by the other player.

Eclipse
Tel: (01243) 531194
Fax: (01243) 531196
E-mail: eclipse@argonet.co.uk



The main control panel

FistLore demo

by Mystery Software and ICS



PEOPLE who have never had an Offender rating at *Elite*; people who enjoy chess; people who play *Lemmings* to save the little rodents rather than to watch them die in lots of interesting ways – they're not going to like this at all.

FistLore is the first pure beat-'em-up to appear on the Archimedes, possibly cashing in on the success of *Streetfighter* and *Mortal Kombat*, possibly just because the programmers thought it was about time. There are no half measures here; the object is to see your opponent lying comatose on the floor in optional pools of the red stuff, and if you let up for one second, your opponent will do exactly the same to you.

The game comes with numerous characters and a wealth of sound effects, but for this demo you have one character and a single bout conducted in stately silence. Double-clicking on *FistLore* runs the game leaving you at a title screen where you can choose the number of players (one or two) and control a number of different options. Use the Up and Down arrow keys to scroll around the menu, the right-hand Ctrl key to choose an option and the Right arrow key to change an entry on the options screen.

Once you start, you are deposited on a snowy battleground, facing an opponent of equal skills and stamina. The controls are shown in the table – if you are playing the computer you use player one's controls. Needless to say there are some special moves to discover (it'd be no fun if I told you, would it?) and without them you'll find the computer player rather hard to hit, let alone knock out.



FistLore keys

Player 1	Action	Player 2
Z	Left	Left arrow
X	Right	Right arrow
F	Up	Up arrow
C	Down	Down arrow
G	Fire	Right Ctrl

P pauses and Esc quits.

You get three rounds if you're playing the computer and only one if you're playing another person. When that green bar along the top gets into the red, you're in trouble; when it's gone, you're eating snow.

If you prefer peaceful, 'educational' games check out *Global Effect* on the other disc – it's rather good. If, however, you want to work off some serious aggression, *FistLore* costs £29.99 inc VAT, is available from ICS (0151-625 1006), and is fun, if you like that sort of thing. It needs 2Mb of memory to run.

Regular items

Various authors

THERE are three items in the *Regulars* directory on the disc:

Free ads: we did not have room to include all the free ads that we had been sent in this issue of *Acorn User*, so we put them in a file on the cover disc instead. These are all the ads that we received at the office up until 14 November – any received after that date will either appear in the small Free Ads section on page 110 or be used in a later issue.

Run the RISC: this month, Mike Cook looks at a MIDI/User Port card from Acorn. The program *AKA12tst* tests the User port, while the *Riff* application by Denis Howe makes use of the MIDI aspects of the card.

***INFO:** as usual, we have all the software that is featured in this section of the magazine including some seasonal MIDI files and a swarm of bees simulator. Unmissable.

Blu

by The Xperience

THIS program was written to take advantage of the power of the Risc PC and show it off in its best and fastest light. Basically, you run it, sit back and enjoy the fun. While you're doing that, you might marvel that the application only takes up 74K even when uncompressed – a truly awesome piece of coding.

If you want the demo to run continuously, then change the **BluNonstop$Flag** in the *!Run* file to 'Yes'. To quit the demo while it is running, press Escape.



These are coders with attitude, so the *!Help* file contains strong language, although the demo doesn't. *Blu* will only run on a Risc PC and, although it will run on RISC OS 3.6, it needs 8-bit sound to run at its fastest speed.

Contact The Xperience at: Kurze Straße 20, 30982 Pattensen, Germany or by e-mail at M.Willers@tu-bs.de.



Santa's

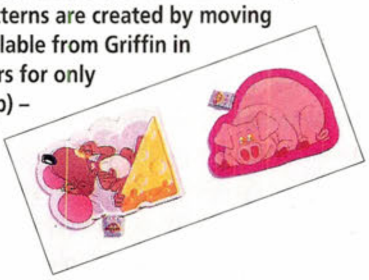
It's that time of year again when everyone starts racking their brains for ideas for Christmas presents; here are some more off-beat suggestions from Karen Peach.

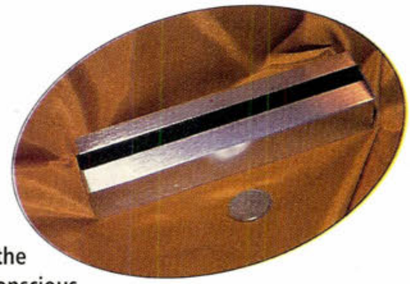
Mouse mats don't have to be boring, they can brighten up your desk and are an ideal gift for anyone. Here's a selection of some of those available:

Kimberley Computer Services has a huge range of novelty mouse mats including a pig, mouse and a black cat, though I personally was most taken with the male torso. The mats cost £3.56 + VAT each – the company does novelty mouse holders too.

For all you hippies out there, why not take a trip back to the '70s with an Aqua Pro mouse mat? Weird and colourful shifting patterns are created by moving your mouse over the oil-filled mat. They are available from Griffin in several colours for only £8.99 (inc p&p) – guaranteed to blow your mind.







A perfect gift for the safety conscious is the new Sonamara Quipalarm Q3. Attach it to your computer and if disturbed an ear-splitting alarm is emitted. It's small, easy to fit and loud enough to scare off any thief so at £59 + VAT it's worth every penny.



After the turkey and Christmas pudding every true junk food addict will relish the thought of getting back to real food so why not treat them to a tasty Mouse Burger? Available soon in the shops or by mail-order from Griffin for £27 (inc p&p), these PC mice are Microsoft serial-compatible, and so will plug directly into the serial port of a Risc PC or A7000, or an older computer using the PD application *SerialMse*.

If you prefer to give presents that have a personal touch then Mediatec's custom printed products may be what you are looking for. It couldn't be easier, just send in a computer graphics file (or photo) and let Mediatec print the image on to any of a whole range of products, including T-shirts, pillow cases, jigsaws, hats/caps, mouse mats, golf umbrellas, paperweights, teddy bears and director's chairs to name just a few. The company will accept *Draw* files provided that you send them on a DOS disc; for bitmaps JPEGs and TIFFs are preferred.



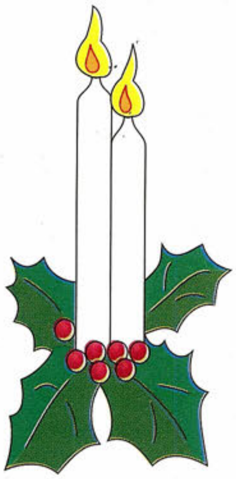


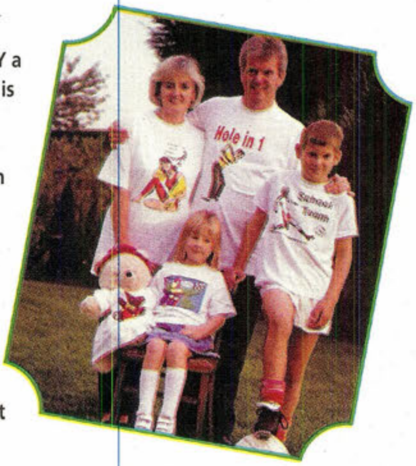
If you're having problems finding a present for the Trekkie who has everything, here's the answer – transform their computer into a *Star Trek* Control Centre. There's the 3-D monitor mask, the space-age 24th century keyboard (as it's a PC keyboard it will only fit the Risc PC or A7000), the shuttle craft disc/CD-ROM holder plus mouse (two button, sadly, but fun to look at) and mouse pad with the *Star Trek: The Next Generation* insignia on it. This is only one of the Brainworks range – there's a *Flintstones* one as well – and is available from leading toy stores and computer retailers with prices ranging from £10.99 for the disc/CD-ROM holder to £79.99 for the keyboard.



Unusual gifts for Christmas

stocking

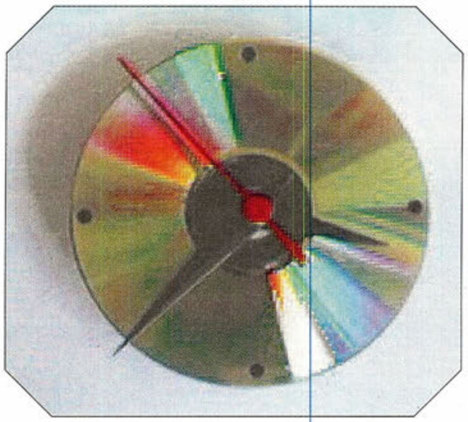




For those who enjoy a bit of DIY a hobby kit from Quill Marketing is the ideal gift. All you need is a computer, printer and an iron. You design the motif, print it on to the transfer paper provided using an ink-jet printer, then simply iron it on. There are different kits to choose from including T-shirt, baseball cap, beach, Christmas party, recipe and mouse mat – there's even a Christmas stocking. Prices start from £5.95.

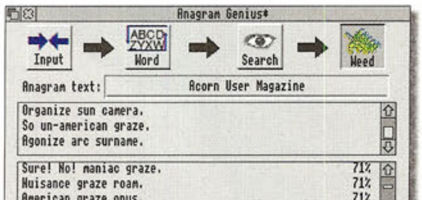


If you've got some old ARM chips lying around doing nothing (after an ARM3 upgrade, for instance, or you could try your local dealer) why not be creative and transform them into jewellery? Completely individual and cheap – if you've got the chips – these are an unusual present for the more adventurous. If you can get a range of them you could even go for a necklace.



A finishing touch for any office is a CD clock, available from Eesox for only £12. It tells you the time, although the hands do rather get in the way when you try to put the disc into your CD-ROM drive.

A great way to keep yourself amused at all the get-togethers during the Festive Season is *Anagram Genius*, the developed version of the popular *Supergram* now with a bigger dictionary than ever. Simply key in each person's name, choose a category (satirical, rude, computer, etc) and see what it comes up with; you'll be surprised. The package costs £19.99 and is available from 4th Dimension, and look out for the accompanying book filled with anagrams generated by the program – it's certain to be one of the Christmas bestsellers.



Contact details

Kimberley Computer Services
Tel: (01942) 677777
Fax: (01942) 672300
E-mail: info@kcsprem.demon.co.uk

Griffin
Tel: (01279) 721269

Brainworks
Tel: 0181-577 1700

Sonamara Computer Services
Tel: (01626) 873763
Fax: (01635) 29786

Mediatec
Tel/Fax: 0117-940 9134
E-mail: mediatec@dial.pipex.com

Quill Marketing
Tel: (01603) 748002
Fax: (01603) 748003

4th Dimension
Tel: 0114-276 9950
Fax: 0114-278 1091

Eesox
Tel: (01954) 212263
Fax: (01954) 212263
E-mail: eesox@cityscape.co.uk





Happy new year

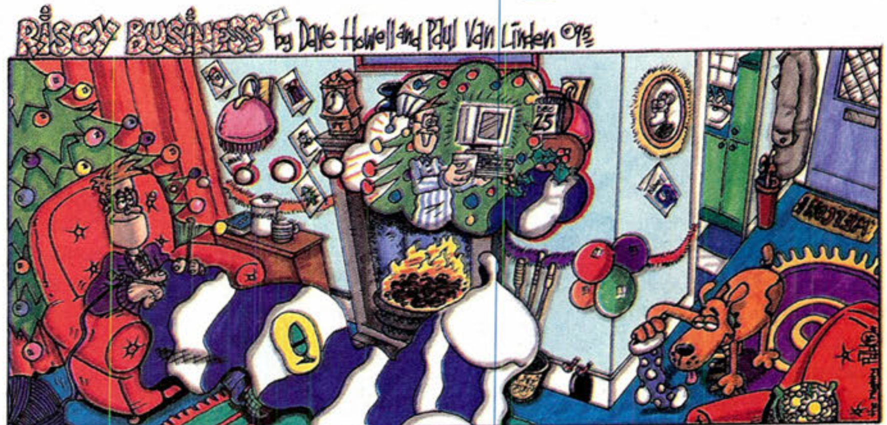
Win a bundle of goodies in Acorn User's Christmas competition.

You've read our round-up of the more unusual Christmas presents that you can buy; now's your chance to win some of them. Obviously in order to give you time to enter we won't be able to send out the winners until after New Year so they won't be quite in time for Christmas – they'll be a nice surprise a few weeks later instead.

Acorn User has three New Year Hampers to give away; bundles made up from various products featured on the previous two pages. There's also a mouse mat each for 10 lucky runners-up. All you have to do is answer the following question:

On the eighth day of Christmas what did 'my true love send to me'?

Send your entries to: *Acorn User* New Year Hamper Competition, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP. Entries must be received by Twelfth Night (6 January 1996) when we will draw the lucky winners out of the hat. The editor's decision is final, and no correspondence will be entered into.



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10 Metre printer cable	£11.00
SCSI Internal Cable	£7.70
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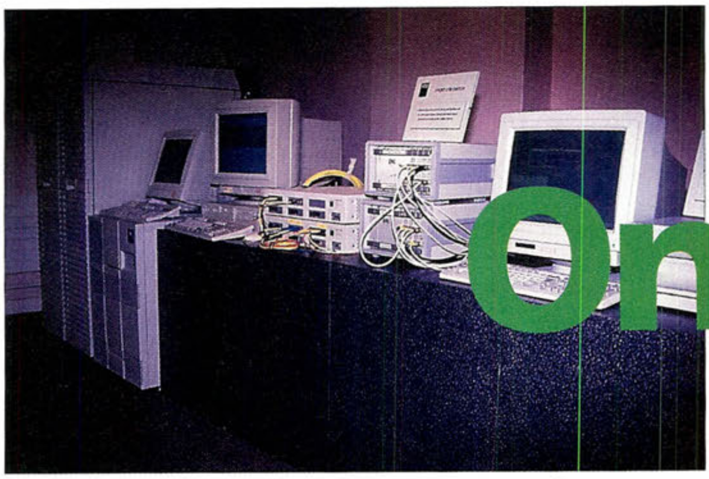
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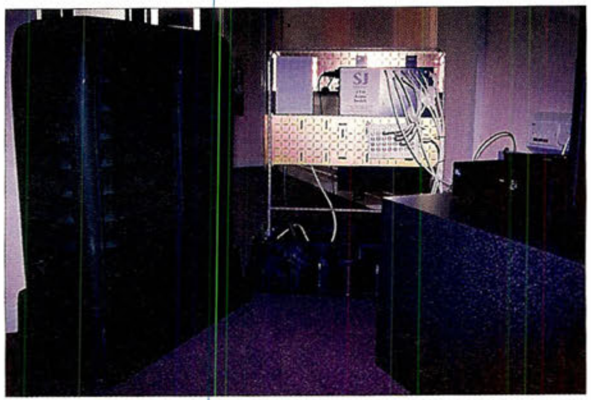
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It's all controlled from here – at the back on the left is the ICL video server.

Ian Burley examines the technological innovations that have made Online Media possible.

Online Me



These green boxes, which you can see scattered round the streets of Cambridge, contain the distribution switches for the network.

It was either November 1991 or 1992. The exact date escapes, but there we were; a huddle of journalists in a small room in the Sands Hotel in Las Vegas, guests of ARM Ltd during the huge annual Comdex Fall computer show. It was a very informal affair. ARM's managing director Robin Saxby introduced his new company, and then it was the turn of Acorn's Malcolm Bird to show something rather remarkable for the time.

Out came an Acorn A4 portable connected to a monitor and most of the US journalists present had their very first experience of fast (25 frames per second) software-only digital video playback in a generously sized screen. Apple's *QuickTime* system had been launched, but we had to put up with postage stamp video windows.

Little did we realise then that Bird and his colleagues already had ambitions in the multimedia arena which would be realised in the formation of Online Media in June 1994. At that distant Comdex preview, the now-familiar Replay demo of the space shuttle launch was displaying Acorn and ARM's credentials as a potential player in the emerging technologies which would soon be labelled DiTV, or Digital Interactive TV.

In RISC OS Acorn had a compact, ROM-based operating system with excellent graphical abilities and ARM Ltd had a very inexpensive, yet powerful 32-bit microprocessor plus the expertise to integrate the CPU into large multi-function custom chips. The seeds of the Online Media Set Top Box (STB) had been sown.

The Cambridge connection

Other ingredients were later added. It's an unofficial joke that Cambridge is home to the 'Cambridge Mafia' – Acorn had been taken over by Olivetti back in the mid-1980s and one by-product of this association was the formation in 1991 of Olivetti Research Laboratories (ORL) based in the old Addenbrookes Hospital site, cheek by jowl with various Cambridge University colleges and especially the Cambridge University Computer Lab just a few hundred yards down the road.

ORL was headed up by Andy Hopper, previously a senior Acorn technical guy who is largely credited with inventing the Acorn Econet network system; don't laugh - Econet was pretty good in its day. Various ex-Acorn members of staff moved to ORL as well. One of ORL's main projects was the development of ATM (Asynchronous Transfer Mode) networking and ORL's lead in this field has been invaluable to Online Media because ATM is widely regarded as the networking standard of choice for key DiTV applications.

A happy coincidence is that fast ATM packet-switching is a job perfectly suited to the talents of the ARM RISC processor. ORL originally used Inmos Transputers for its ATM switching hardware, but ARMs have since taken over. Earlier this year ORL spawned a new commercial company, Advanced Telecommunications Modules Ltd (ATML), dedicated to the industry. ATML produces ATM switches and compact ATM-based RAID (Redundant Array of Inexpensive Disk) servers call Disc Bricks – both are used by Online Media.

Another Cambridge company from the Acorn fold, SJ Research, is working with Online Media on the ATM side. SJ Research has been selling quite advanced ATM-based networks to schools for several years in the form of its Nexus offering. SJ Research's contribution to the Online Media side of the equation has been local-loop ATM distribution switches which are designed to be located in kerb-side cabinets close to the homes and businesses being served by Online Media STBs.

Also working on the trial is Cambridge Cable. This company has been very keen to establish itself at the forefront of DiTV developments with the help of the likes of Online Media, ORL, ATML and SJ Research.

The media server

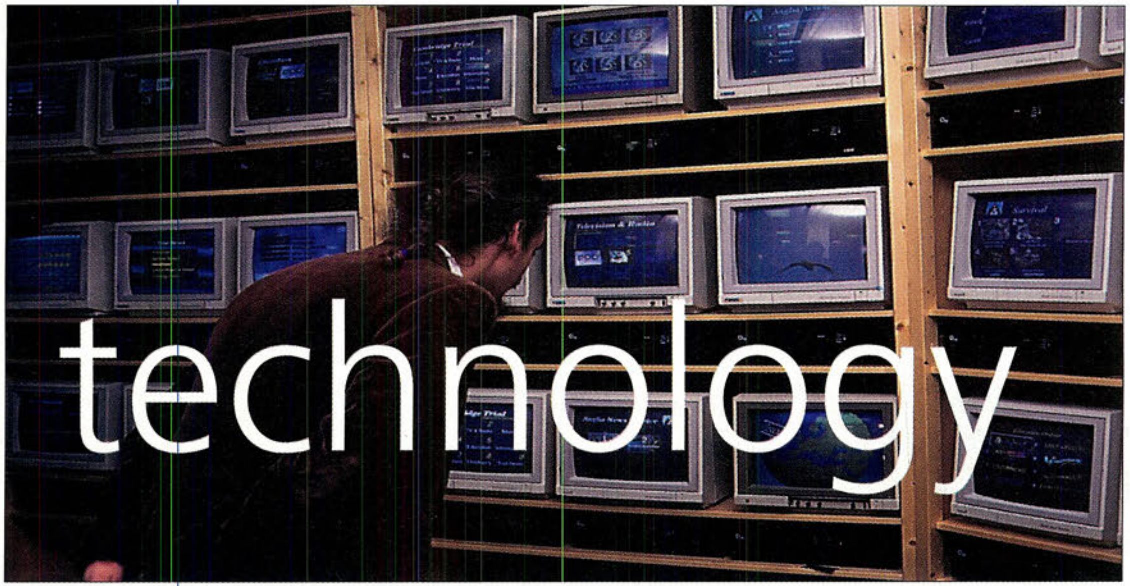
Even using MPEG (Motion Picture Expert Group) digital audio/visual compression, a two-hour movie will use up approximately 1Gb of server storage. If that movie is really popular, it may need to be loaded on to the server several times. Of course, literally hundreds and even thousands of other movies, news archives, games, documentaries, pop videos, and so on will have to be managed by the media server.

Commercial media servers of the future will have thousands of multi-gigabyte hard drives forming a massive RAID server. Online Media has a relatively small commercial-grade media server for Cambridge Trial purposes. Its ICL PIMserver 'only' has a couple of terabytes of storage at present. However, the setup is a good approximation of a scale model to study the workings of a typical DiTV service of the future.

The network

For the Cambridge Trial, Online Media has concentrated on ATM from end to end. This has been achieved over both fibre-only connections into Trial sites and also using conventional Cable TV co-axial copper cable from the kerb into the home. The former will probably be commonplace

Photos by REGAN



dia technology

Over 100 STBs and screens make up in Online Media's testing array.

one day, but the latter is the most likely form of connection in the near future as Cable TV operators switch over from analogue to digital services using their existing co-axial copper cable networks.

Online Media has also studied ADSL connection technology which uses ordinary telephone cable. This is the most challenging technology of all when you consider that these cables were only ever designed for relatively poor quality audio service. It's a bit like making a moped win a Formula One race, but it works in the lab. Online Media also has interests in various other networking and broadcast feed standards and technologies, including satellite feeds, conventional Ethernet and alternative customer requirements like modem connections.

The STB

Online Media's original STB was based on familiar Risc PC innards. Inside the box was an ATM interface and an MPEG video card – the latter produced by Wild Vision, the hardware subsidiary of Computer Concepts.

The rather large box had space for CD-ROM drive if required and at the back all the usual Risc PC interfaces were present. The same case design is now used for the new Acorn A7000, though the A7000 is in Acorn corporate grey rather than Online Media black.

While the new A7000 uses the old Online Media case, the new Online Media STB2 has an entirely new slimline case which looks rather like a satellite decoder box. However, both the STB2 and the A7000 share one major component – the new ARM7500 integrated CPU chip. The ARM7500 compares favourably on price with typical Intel 486, Pentium and IBM/Motorola PowerPC processors, but for the money you also get an I/O interface, memory manager plus 8-bit sound and 24-bit video built in.

With a minimum of external glue and system chips required on the STB2 motherboard (bar memory), Online Media looks very healthy on the value-for-money front. RISC OS remains as the operating system and one attraction of the unit is that you can download Acorn-compatible games from the media server (or another server on the network) to play on your STB2.

• *Next month we look at what you can already do with Online Media technology and what might be possible in the future.* AU

Asynchronous Transfer Mode (ATM)

ATM is a networking architecture ideally suited to DiTV. It was adopted by the Consultative Committee on International Telephone & Telegraph (CCITT) International standards body in 1988 as part of its Broadband Integrated Services Digital Network (B-ISDN) initiative. Instead of the more conventional synchronous packet switching scheme used in many networking architectures like Ethernet (and Econet), for example, ATM is an asynchronous cell relay system.

Data is transmitted in a series of compact fixed-length cells which can be identified and routed very efficiently using fast switching. In effect, ATM serves as an asynchronous data packet multiplexer and demultiplexer, solving the problem of data channel synchronisation by using a rapid series of small data packets. This is very important for real-time synchronised data streaming, like multimedia audio visual transmissions, for example. ATM cells have a 48-byte 'payload' and a 5-byte header, totalling 53 bytes in all. These can be assembled and disassembled from data feeds with enormously varying data rates and packet structures.

At present, mainstream commercial ATM development is mainly focused on backbone applications. ORL has had a 500Mbits/sec backbone connection with the Cambridge University Computer Lab and the Engineering Department for several years, though 155Mbits/sec is the most commonly adopted rate.

There are ATM-to-the-desktop specifications for local area computer networking, typically operating at 24Mbits/sec. Because of the restrictions imposed by relatively long wiring distances and cabling which is either designed for old-fashioned analogue cable TV broadcasting or even ordinary telephony, Online Media has been working on ATM distribution feeds which work at just a couple of Mbits/sec, but this is enough for VHS-quality DiTV service. ORL is now working on wireless ATM research.

Two of the original Set Top Box design – note the similarity to the A7000 box.



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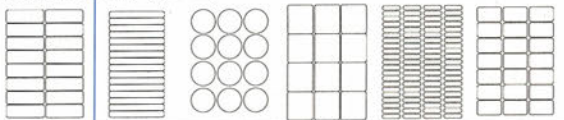
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L7680 38.1x21.2mm (65 lps, 25 shts)	Mini Addressing Gold	£17.00	b	£19.98
L7690 38.1x21.2mm (65 lps, 25 shts)	Min Addressing Silver	£17.00	b	£19.98
L7170 134x11mm (24 lps, 25 shts)	Eurofolio/Filing Labels	£11.00	b	£12.93
L7171 200x60mm (4 lps, 25 shts)	Lever Arch Labels	£11.00	b	£12.93
L7172 100x30mm (16 lps, 25 shts)	Ring Binder Labels	£11.00	b	£12.93
LASER Mini-Sheets				
L2186 69.9x50.8mm (4 lps, 40 shts)	3.5" Diskette Face Only	£7.50	b	£8.81
L2163 101.6x50.8mm (4 lps, 40 shts)	Parcelling Labels	£7.50	b	£8.81
L2162 101.6x33.8mm (6 lps, 40 shts)	Addressing Labels	£7.50	b	£8.81
L2160 66.8x25.4mm (8 lps, 40 shts)	Addressing Labels	£7.50	b	£8.81
L2164 50x14mm (28 lps, 40 shts)	Suspension File	£7.50	b	£8.81
LASER Clear				
L7551 38.1x21.2mm (65 lps, 25 shts)	Mini Addressing Transparent	£15.00	b	£17.63
L7562 99.1x33.9mm (16 lps, 50 shts)	Addressing Transparent	£25.00	b	£29.38
L7562S 99.1x33.9mm (16 lps, 25 shts)	Addressing Transparent	£15.00	b	£17.63
L7563 99.1x38.1mm (14 lps, 50 shts)	Addressing Transparent	£25.00	b	£29.38
L7563S 99.1x38.1mm (14 lps, 25 shts)	Addressing Transparent	£15.00	b	£17.63
L7565 99.1x67.7mm (8 lps, 50 shts)	Parcelling Transparent	£25.00	b	£29.38
L7575S 99.1x67.7mm (8 lps, 25 shts)	Parcelling Transparent	£15.00	b	£17.63
LASER Business Cards				
L7413 90x50.8mm (10 lps, 25 shts)	Business Cards, Micro Perforated	£15.00	b	£17.63
LASER Name Badges				
L7418K 86.6x55.5mm (8 lps, 3 shts, 10 Holders)	Name Badge & Holders	£17.00	b	£19.98
L7418 86.5x55.5mm (8 lps, 25 shts) Refill Pk	Name Badge	£13.50	b	£15.86
LASER Postcards				
L7421 139.37x97.29mm (4 lps, 25 shts)	Postcards	£16.00	b	£18.80



INKJET REFILLS

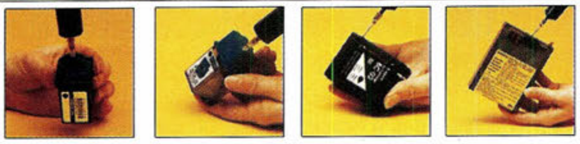
Inkjet Refills are an economical method of re-charging your existing print cartridge.

Premier Inks produce a complete range of tried & tested refills that are suitable for almost every inkjet printer on the market. The **Jet Black** refill is much darker than most original cartridges and often dries faster with less overspray, so the output looks clearer than before.

The Refills are packed in convenient ready to use one way syringes and come complete with a safety nozzle and FULL easy to use instructions covering 10 different types of the most popular cartridges. It takes little more than a couple of minutes to refill a print cartridge (whatever the make), and generally saves at least 50% off the cost of a new cartridge.

Using Refills with disposable head print cartridges in no way affects the warranty of your printer as the cartridge is considered a separate item. Also by using the PREMIER range of refills you will not lose out on the quality of print, in fact in most cases using these particular refills can improve the quality of print.

If you are unsure about using Inkjet Refills, call and speak to our staff who will be happy to send you a sample of the print out quality and a set of instructions, so that you can see the results and how easy they are to use, before you decide to buy.





	Ex Vat		Inc Vat
Single Refill Any Colour	£5.95	a	£6.99
Twin Refill Any Colour	£11.05	a	£12.99
Quad (Four) Refill Black Only	£19.57	a	£22.99
Tri-Colour Refill C/M & Y	£17.01	a	£19.99
Bulk 125ml Refill Kit Any Colour	£21.27	a	£24.99
Bulk 250ml Refill Kit C/M/Y or Black	£38.29	b	£44.99
Bulk 500ml Refill Kit Black Only	£59.57	b	£69.99
1ml Head Recovery Kit	£3.40	a	£4.00
125ml Cartridge Cleaning Kit	£3.40	a	£4.00
400ml Cartridge Cleaning Kit	£8.50	b	£9.99
TDQ Adaptor for Thinkjet Cartridge	£2.55	a	£3.00

COLOURS AVAILABLE FROM PREMIER INKS

Jet Black, Cyan, Magenta, Yellow, Brown, Dk Green, Lt Green, Dk Blue, Dk Red, Lt Red, Gold, Silver

Premier Inks

"The Professional Choice"

INKJET CARTRIDGES

	Ex Vat		Inc Vat
HP51626A DJ Double Life	£17.02	a	£20.00
HP51633a DJ Portable Black	£15.25	a	£17.92
HP51625A Tri Colour Cartridge	£20.85	a	£24.50
HP51640A HP1200c Black	£17.00	a	£19.98
HP51640? HP1200c C/M or Y	£20.20	a	£23.74
HP51604A Thinkjet/Quietjet	£12.00	a	£14.10
HP51639A Paintjet XL Black	£14.95	a	£17.57
HP51606C Paintjet Tri Colour	£20.20	a	£23.74
HP51606A Paintjet Black	£22.20	a	£26.09
HP51606R Paintjet Red	£23.00	a	£27.03
HP51606B Paintjet Blue	£23.00	a	£27.03
HP51606Y Paintjet Yellow	£23.00	a	£27.03
Epson Stylus 800 Black	£8.00	a	£9.40
Epson Stylus Colour - Colour	£25.00	a	£29.38
Epson Stylus Colour - Black	£12.00	a	£14.10
Olivetti JP150 Black	£14.60	a	£17.16
Canon BC-01 Black	£14.00	a	£16.45
Canon BC-02 Black	£15.00	a	£17.63
Canon BJC600 Black High Cap	£8.00	a	£9.40
Canon BJC600 C/M or Y	£6.20	a	£7.29
Canon BJC4000 BC20 Black	£21.00	a	£24.68
Canon BJC4000 BCI21 Black	£7.00	a	£8.23
Canon BJC4000 BCI21 Colour	£12.00	a	£14.10
Canon JI-20c Integrex Colour	£18.00	a	£21.15
Canon JI-25B Integrex Black	£10.02	a	£11.77
Canon BJ300/330 Black	£11.50	a	£13.51
Canon BJC800 Black	£13.50	a	£15.86
Canon BJC800 C/M or Y	£17.00	a	£19.98

DUST COVERS

	Ex Vat		Inc Vat
PC 2 Piece Dust Cover	£6.00	a	£7.05
PC Mini Tower Dust Cover	£3.56	a	£4.18
PC 14" Universal Monitor Cover	£3.56	a	£4.18
PC 102 Key UK Keyboard Cover	£3.56	a	£4.18
Acorn A5000 All in One Dust Cover	£6.00	a	£7.05
Acorn A4000 All in One Dust Cover	£6.00	a	£7.05
Acorn A3010/3020 Dust Cover	£4.55	a	£5.35
Risc PC (1 Stack) Dust Cover	£6.00	a	£7.05
Small 80 Column Printer Cover	£3.56	a	£4.18
Large 132 Column Printer Cover	£6.40	a	£7.52
HP Deskjet 500/550/560 Cover	£3.56	a	£4.18
Canon BJ10 Dust Cover	£3.56	a	£4.18
Canon BJ200 Dust Cover	£4.56	a	£5.36
Canon BJC600 Dust Cover	£4.56	a	£5.36

LASER TONER

	Ex Vat		Inc Vat
Canon LBP-8 IV	£70.00	d	£82.25
Canon LBP-8 III	£59.00	d	£69.33
Canon LBP-4U	£52.00	d	£61.10
HP Laserjet III/IIID	£52.00	d	£61.10
HP Laserjet IIIP/IIP	£48.00	d	£56.40
HP Laserjet IIISI/4SI	£95.00	d	£111.62
HP Laserjet 4/4M/4MP/4P	£70.00	d	£82.25
HP Laserjet 4L/4ML	£48.00	d	£56.40
Qume Laser Direct (3 Sets)	£99.00	d	£116.33

Upgrades & Repairs

We can Fit any upgrade listed on these pages, or fix most problems while you wait in our showroom. In most cases we don't charge for fitting any of the products we supply.

Low repair costs for Acorn/PC or printers and monitors. Call for Quote.

WINTUNER & INIGUARD

Wintuner is a program that has been designed to get the best speed out of the Windows environment. It is ideal for machines that are underpowered such as the Risc PC with the 486 Card. Fine tunes the Windows environment.

Iniguard is a program which is designed to stop Windows becoming corrupt. A 3 stage recovery program and a master backup of ALL the important Initialisation files and the Autoexec.bat and Config.sys files.

Highly Recommended.

	Ex Vat		Inc Vat
Wintuner & Iniguard	£21.27	a	£24.99

FREE

Mouse Mat with any order over £20

Quote ref: MMKCS

RIBBONS

B=BLACK RIBBON
C=COLOUR RIBBON

			Ex Vat		Inc Vat
Amstrad DMP2000/3000	B	2482RN	£2.80	a	£3.29
Amstrad DMP4000	B	2426RN	£3.66	a	£4.30
Amstrad LQ5000	B	2886DN	£6.10	a	£7.18
Amstrad PCW8256/LQ3500	B	2944DN	£2.85	a	£3.35
Amstrad PCW9512	B	2949FN	£3.38	a	£3.97
Brother M1009/1024/1109/1209	B	2412FN	£3.90	a	£4.58
Brother M1818/1824L/1924L	B	2905DN	£4.88	a	£5.74
Citizen 120D/LSP10/Swift 24/9	B	2939DN	£2.85	a	£3.35
Commodore MPS1220/1230	B	2843RD	£4.50	a	£5.29
Commodore MPS1500/1550	B	2863RDB	£6.75	a	£7.93
Epson LQ100	B	2986RD	£4.10	a	£4.82
Epson LX100	B	2999RD	£3.83	a	£4.50
Epson LQ200/400/500/800/850	B	2477DN	£3.45	a	£4.05
Epson LQ1000/1050/1070/1170	B	2478DN	£4.10	a	£4.82
Epson FX/MX/RX80/FX/LX800	B	2273FN	£2.90	a	£3.41
Epson FX/MX100/FX/MX1000	B	2320FN	£3.36	a	£4.30
Epson LX80/86/90	B	2454FN	£2.12	a	£2.49
Fujitsu DL3300/3400, DX2200	B	2849DN	£3.75	a	£4.41
IBM 4207/4212 Proprinter X24	B	4846FN	£3.88	a	£4.56
Mannesman Tally 80/81	B	2698MS	£3.90	a	£4.58
NEC Pinwriter P220/P2+	B	2844RD	£3.03	a	£3.56
Oki ML182/183/192/193/195	B	2455RN	£3.17	a	£3.72
Oki ML320/321/380/390/391	B	2874RD	£3.32	a	£3.90
Panasonic KX-P1123/1124/1140	B	2904RD	£3.46	a	£4.07
Panasonic KX-P1080/1180/90	B	2905RN	£2.89	a	£3.40
Panasonic KX-P1524/1540/1624	B	2953RD	£4.55	a	£5.35
Panasonic KX-P2123/2124/2180	B	2984RD	£5.75	a	£6.76
Seikosha SL90/92/95/96	B	2920DN	£5.70	a	£6.70
Star LC10/20/100	B	2861FN	£2.29	a	£2.69
Star LC200	B	2954FN	£3.00	a	£3.53
Star LC24-10/20/200	B	2868DN	£2.86	a	£3.36
Star ND/NL/NR/NX10, NB24-10	B	2761DN	£3.85	a	£4.52
Taxan Kaga KP810/815/910/915	B	2223RN	£3.14	a	£3.69
Citizen 224/240/Swift 24-9	C	2964DN	£12.81	a	£15.05
Commodore MPS1500/1550	C	2863RDC	£9.38	a	£11.02
Panasonic KX-P2123/2124/2180	C	2985RD	£10.63	a	£12.49
Star LC10/20/100	C	2869FN	£6.00	a	£7.05
Star LC200	C	2959FN	£9.78	a	£11.49
Star LC24-10/20/200	C	2952DN	£9.63	a	£11.32

Special Offer — **Startwrite** Word Processor £17.02 & Vat

Special Offer — **Champions** 4 Games in 1 £12.72 & Vat

Special Offer — **240watt Speakers** Amplified Mains Powered £58.00 & Vat

Special Offer — **Joystick Controllers** for A3020/4000/5000 £20.00 & Vat

Special Offer — **386 PC Cards** for A3020/4000 £99.00 & Vat

Special Offer — **Pinpoint** Database Sofware £30.00 & Vat

All above, while stocks last.

CABLES & ADAPTORS

		Ex Vat		Inc Vat
Mains Lead 3 Pin Moulded 5 amp	*Computer or Printer Power Lead*	£3.70	a	£4.35
Mains Lead Extension M-F	*Computer to Monitor Power Lead*	£3.70	a	£4.35
4 Gang Extension	*1 Mains Socket converted to 4, Fused*	£6.50	b	£7.64
Parallel Printer Cable 1.8M	*Normal Printer Cable PC/Acorn/Atari etc*	£2.55	a	£3.00
Parallel Printer Cable 3M	*Normal Printer Cable PC/Acorn/Atari etc*	£4.55	b	£5.35
Parallel Printer Cable 5M	*Normal Printer Cable PC/Acorn/Atari etc*	£6.50	b	£7.64
Bi-Directional Parallel Printer Cable	*Fast Data Transfer Cable*	£11.00	a	£12.93
Centronics - Centronics Cable 2M	*Switch Box Cable*	£4.28	a	£5.03
Centronics - Centronics Cable 3M	*Switch Box Cable*	£6.50	a	£7.64
Serial Cable 2M 25 Pin M-F	*All Pins Connected/Printer Cable*	£4.28	a	£5.03
Serial Cable 5M 25 Pin M-F	*All Pins Connected/Printer Cable*	£8.50	b	£9.99
Laplink Cable 1.5M 25&9F-25&9F	*Data Transfer Cable Null Modem (X-Over)*	£8.50	a	£9.99
Midi Leads (Pair)	*Music Data Transfer Cables 5 Pin Din*	£8.00	a	£9.40
Phono Leads (Pair)	*2xPhono Transfer/Extension Cable*	£3.50	a	£4.11
Phono to Stereo Jack Convertor	*3.5mm Stereo Jack to 2xPhono Plugs*	£3.00	a	£3.53
VGA/SVGA Monitor Extension Cable 2M	*15 Pin HD M-F*	£6.50	a	£7.64
Keyboard Extension Cable 2M	*Curly 5 Pin Din M-F Standard PC Keyboard*	£6.50	a	£7.64
Keyboard Extension Cable 2M PS2	*Curly PS2/Risc PC M-F Keyboard Ext*	£6.50	a	£7.64
Mouse Extension Cable 2M	*9 Pin D Type M-F Extender Cable*	£6.50	a	£7.64
Joystick Extension Cable 2M PC	*15 Pin D Type M-F Extender Cable*	£6.50	a	£7.64
Joystick Splitter	*Allows the Use of 2 Joysticks on a PC*	£8.50	a	£9.99
A3010/3020/4000/5000 - Scart Lead 1.5M	*15 Pin HD D Type to Euroscart (Not Sony)*	£8.50	a	£9.99
A3010/3020/4000/5000 - CM8833 MKI	*15 Pin HD D Type - 9 Pin*	£8.50	a	£9.99
A3010/3020/4000/5000 - CM8833 MKII	*15 Pin HD D Type - 9 Pin & Phono Leads*	£8.50	a	£9.99
A3010/3020/4000/5000 - AKF17 & AKF30	*15 Pin HD D Type - 9 Pin*	£8.50	a	£9.99
SCSI 25 Pin D - Centronics	*SCSI Interface to External Box/CD or HD*	£12.00	b	£14.10
SCSI 50 Way IDC Ribbon Cable 1M	*Internal SCSI Cable (Can be Custom made)*	£ ASK	a	£ ASK
SCSI Centronics to Centronics 1M	*External Daisy Chaining/Switch Box Cable*	£14.00	b	£16.45
IDE 40 Way Cable 15" for 2 Hard Drives	*Internal for 2x3.5" IDE Hard Drives or CD's*	£3.00	a	£3.53
IDE 40 Way Sub Miniature Cable	*Internal Cable for 2.5" IDE Hard Drive 6cm*	£8.50	a	£9.99
IDE 40 Way Sub Miniature Cable Short	*As above but only 4cm long (A1200, etc)*	£7.00	a	£8.23
Panasonic CD Ribbon Cable 40 Way	*Internal Cable for CD ROM to Interface*	£3.00	a	£3.53
Panasonic CD Audio Cable	*CD to Soundcard/Interface for Audio CD's*	£3.00	a	£3.53
Sony CD Ribbon Cable 34 Way	*Internal Cable for CD ROM to Interface*	£3.00	a	£3.53
Sony CD Audio Cable	*CD to Soundcard/Interface for Audio CD's*	£3.00	a	£3.53
Mitsumi CD Ribbon Cable 40 Way	*Internal Cable for CD ROM to Interface*	£3.00	a	£3.53
Mitsumi CD Audio Cable	*CD to Soundcard/Interface for Audio CD's*	£3.00	a	£3.53
2xFloppy Disk Drive Ribbon Cable	*Internal Floppy Disk Drive Cable 3.5"/5.25"*	£3.00	a	£3.53
Power Cable Splitter 5.25" or HD/CD 2-1	*Splitter to add an Extra 4 Pin Power Lead*	£3.25	a	£3.82
Power Cable Splitter 3.5" 2-1	*As above but for 3.5" Floppy Disk Drives*	£3.25	a	£3.82
PS2 Keyboard Adaptor	*Converts Std 5 Pin Din Keyboard to PS2*	£3.50	a	£4.11
PS2 to 5 Pin Keyboard Adaptor	*Converts PS2 Keyboard to Std 5 Pin Din*	£3.50	a	£4.11
PS2 Mouse Adaptor	*Converts Serial 9 Pin Mouse to PS2*	£3.50	a	£4.11
Dongle Dangle 6cm	*For use on Restricted Access Computers*	£8.00	a	£9.40

For other cables not listed or specialist cables, please call with specification and we'll make it for you.

MULTI - MEDIA KITS

	Ex Vat		Inc Vat
Twin Speed IDE CD ROM	£50.00	d	£58.75
Twin Speed External CD ROM	£175.00	d	£205.63
Quad Speed IDE CD ROM	£110.00	d	£129.25
Twin Speed SCSI CD ROM	£110.00	d	£129.25
Quad Speed SCSI CD ROM	£160.00	d	£188.00
External CD Box & PSU	£65.00	c	£76.38

MONITORS

	Ex Vat		Inc Vat
14" SVGA Monochrome	£79.00	d	£92.83
14" SVGA 0.39 Colour	£150.00	d	£176.25
14" SVGA 0.28 MPR2 Colour	£165.00	e	£193.88
15" SVGA 0.28 MPR2 Colour	£250.00	e	£293.75
17" SVGA 0.28 MPR2 Colour	£490.00	e	£575.75
20" SVGA 0.31 MPR2 Colour	£735.00	e	£863.63
Acorn AKF53 Med Res Colour	£235.00	e	£276.13
Acorn AKF60 Hi Res Colour	£295.00	e	£346.63
Acorn AKF85 As Above, 17"	£690.00	e	£810.75

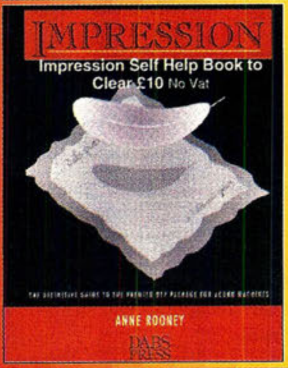
CD ACCESSORIES

	Ex Vat		Inc Vat
CD Caddy Holder	£5.00	a	£5.88
CD Disk Cleaner	£2.98	b	£3.50
CD Tray Flipper Holds 20	£2.55	b	£3.00
Empty CD Jewel Case	£0.50	a	£0.59
CD Protector Rings (Pack of 5)	£1.50	a	£1.76

ACORN Software

	Ex Vat		Inc Vat
10 out of 10 Software All Titles	£16.90	a	£19.86
1st Word Plus	£17.50	a	£20.56
Arc Comm2	£35.00	a	£41.13
Artworks CD Ver	£130.00	a	£152.75
Avery Label Templates	£5.00	a	£5.88
Black Angel	£22.98	a	£27.00
Borders for Impression 1	£8.51	a	10.00
Borders for Impression 2	£8.51	a	£10.00
Canon Fodder	£18.48	a	£21.71
Crystal Maze	£24.00	a	£28.20
The Crystal Rain Forest	£35.50	a	£41.71
Dataword	£11.91	a	£13.99
Dune II	£28.50	a	£33.49
Easiword v2	£25.00	a	£29.38
Easyfont 3	£25.00	a	£29.38
Euclid 2	£25.00	a	£29.38
Midnight Graphics Express	£15.00	a	£17.63
Guile	£18.00	a	£21.15
Labeller	£7.00	a	£8.23
Magic Pockets	£19.50	a	£22.91
Micro English	£18.00	a	£21.15
Micro French	£18.00	a	£21.15
Micro German	£18.00	a	£12.15
Pendown Etoiles	£41.70	a	£48.99
Pendown Plus	£68.00	a	£79.90
Pinpont	£45.00	a	£52.88
Pinpoint 2	£65.00	a	£76.38
Pipedream 4	£80.85	a	£95.00
Quest for Gold	£12.00	a	£14.10
Simon the Sorcerer	£28.00	a	£32.90
Tech Writer 2	£125.00	a	£146.88
Tower of Babel Comp.	£21.28	a	£25.00
Wolfenstein 3D	£22.00	a	£25.85
Wordz	£50.00	a	£58.75
Worra Cad	£65.00	a	£76.38
Xenon 2	£18.00	a	£21.15
Zool (1.44MB HD Only)	£14.00	a	£16.45

Huge range of Software available, call for list.



Impression Self Help Book to Clear £10 No Vat

ACORN UPGRADES

	Ex Vat		Inc Vat
4-8 MB Up. (310,440,400/1)	£249.00	c	£292.57
4-8 MB Up. (A3000/5000)	£249.00	c	£292.57
Arm 3 (A3000/400) & FPA Socket	£114	c	£133.95
Arm 3 As above with FPA.	£179.00	c	£210.32
FPA Upgrade for A5000/540	£79.00	c	£92.82
A3010 1-2 MB Upgrade	£45.00	b	£52.87
A3010 2-4 MB Upgrade	£89.00	c	£104.57
A3010 1-4 MB Upgrade	£132.00	c	£155.10
A3020/4000 2-4 MB Upgrade	£83.00	b	£97.52
A5000 2-4 MB Upgrade	£79.00	b	£92.82
A3000 1-2 MB Upgrade	£52.00	b	£61.10
A3000 1-4 MB Upgrade	£114.00	c	£133.95
A3000 Serial Port Upgrade	£19.00	b	£22.32
A310 4Mb Upgrade	£137.00	c	£160.97
Risc OS Carrier Board (A310)	£22.00	b	£25.85
MEMC 1A Upgrade Kit	£29.00	b	£34.07
A400/1 1Mb Upgrade per meg	£45.00	b	£52.87
Risc OS 3.1 Up. Rom & Books	£75.00	d	£88.12
Midi Expansion Card	£79.00	c	£92.82
CD ROM Drives SCSI	£POA	d	£POA
CD ROM Drives IDE	£POA	d	£POA
Scanlight Junior Handheld	£175.00	d	£205.62
VIDI Archimedes	£55.00	d	£64.62
Hard Drives (int) A3010/3020			
A3010 HD Interface	£69.00	d	£81.07
A3010 HD Int.Face & User Port	£79.00	d	£92.83
85Mb Hard Drive 2.5" IDE	£85.00	d	£99.88
120Mb Hard Drive 2.5" IDE	£95.00	d	£111.63
170Mb Hard Drive 2.5" IDE	£100.00	d	£117.50
210Mb Hard Drive 2.5" IDE	£130.00	d	£152.75
340Mb Hard Drive 2.5" IDE	£160.00	d	£188.00
Hard Drives (int) A4000/5000			
420Mb Hard Drive 3.5" IDE	£105.00	d	£123.38
560Mb Hard Drive 3.5" IDE	£125.00	d	£146.88
520Mb Hard Drive 3.5" SCSI	£175.00	d	£205.63
1Gb Hard Drive 3.5" SCSI	£245.00	e	£287.88
Hard Drives (ext) A3000			
-A3000 Req Interface & Case:			
A3000 IDE Interface Podule	£69.00	d	£81.07
A3000 Hard Drive Case	£65.00	d	£76.38
210Mb Hard Drive 3.5" IDE	£85.00	d	£99.88
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Acorn Original Mouse	£25.00	b	£29.38
KCS Replacement Mouse	£12.00	b	£14.10



Novelty Mouse Mats	Ex Vat		Inc Vat
Hamburger	£3.56	a	£4.18
Pig	£3.56	a	£4.18
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Ladies Top	£3.56	a	£4.18
Male Torso	£3.56	a	£4.18
Football	£3.56	a	£4.18
Cat	£3.56	a	£4.18
Mouse	£3.56	a	£4.18
Pen	£3.56	a	£4.18
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Motorbike	£3.56	a	£4.18
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We'll show you how, and provide all the information and software you need, be it for the Acorn or the PC. Call now and speak to our technical staff who will be happy to advise on the best type of modem, who provides the services and who is the best priced on the market.

Schools & Networking Section

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UK Keyboard
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Twin Speed CD ROM
16 Bit Stereo Soundcard
Dos & Windows
Encarta 95
Microsoft Works

SRP £800
Teacher £780
School £770

DX4 - 120 - 256k Cache
8Mb Ram
560Mb Hard Drive
VLB 1Mb Graphics Card
VLB Enhanced I/O
1.44Mb Floppy
14" SVGA Colour Monitor
UK Keyboard
Mouse
Quad Speed CD ROM
16 Bit Stereo Soundcard
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The NetServer utilises the advanced Networking and security features of Microsoft Windows NT environment and the recently launched Arcshare, Acorn to PC networking software.

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Free Installation ***£2750.00***

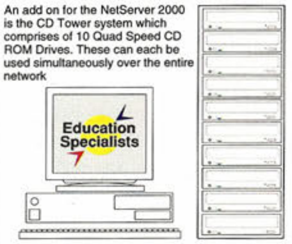
NetServer 2000

100Mhz Processor, 32Mb RAM, 2Gb SCSI Hard Drive Stripe Set, Quad Speed CD ROM, Windows NT 3.5x, 1.44Mb Floppy, PCI Graphics Card, MPR2 Colour Monitor, 100Mbit PCI Network Card 2Gb DAT Backup Unit.

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Using the NetServer at the heart of a network enables easy network management in one machine with access to Macs, Acorns, PC's, and even Unix systems. The real beauty about this system is that the "Client" machines don't notice anything different about the network, as Arcshare and Windows NT effortlessly blend together to give full control and file manipulation.

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Acorn to PC Networking Software

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Version 2 now available. Includes Printing Facility

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Premier Matt Coated Inkjet Paper for Colour Printing A4 200 shts	£14.00	d	£16.45
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Hewlett Packard Glossy Paper 51636J A4 50 shts	£41.00	b	£48.18
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Canon LC-101 Coated Inkjet Paper for Colour Printing A4 200 shts	£18.00	d	£21.15
Canon LC-101 Coated Inkjet Paper for Colour Printing A3 100 shts	£41.00	d	£48.18
Epson Coated Inkjet 720 DPI For High Quality Colour Printing (Stylus) A4 200 shts	£19.00	d	£22.33
Epson Coated Inkjet 360 DPI For Colour Printing on Stylus Colour A4 200 shts	£17.00	d	£19.98
Premier Inkjet Transparencies for Overhead Projectors A4 50 shts	£30.00	b	£35.25
Premier Inkjet Transparencies for Overhead Projectors A4 20 shts	£15.00	b	£17.63
Hewlett Packard Inkjet Transparencies for Overhead Projectors 51636G A4 50 shts	£40.00	b	£47.00
Avery Inkjet Transparencies for Overhead Projectors A4 50 shts	£34.00	b	£39.95
3M Laser Transparencies for Overhead Projectors A4 50 shts	£25.00	b	£29.38
Premier Laser Transparencies for Overhead Projectors A4 50 shts	£25.00	b	£29.38
Premier Laser Transparencies for Overhead Projectors A4 20 shts	£12.50	b	£14.69

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office data®

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Copytravel - Portable	£4.26	b	£5.00
Copyplus Desktop	£7.50	b	£8.81
Copyplus Solid Base	£12.00	c	£14.10
Copyplus Flexible Arm	£12.72	c	£14.95
Copyplus A3 Extension Kit	£7.00	b	£8.23
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Ergo Mouse Pad - Hard Mat	£4.26	b	£5.00
Ergo Mouse Tray & Wrist Rest	£6.00	b	£7.05
Mouse/Scanner Holder	£2.50	b	£2.94
Novelty Cat Mouse Holder Red	£2.50	b	£2.94
Novelty Cat Mouse Holder Black	£2.50	b	£2.94
Novelty Cat Mouse Holder Grey	£2.50	b	£2.94
Wildlife Mouse Mat	£4.00	a	£4.70
Wildlife Wrist Rest	£4.50	b	£5.29
Dinosaur Mouse Mat	£4.00	a	£4.70
Dinosaur Wrist Rest	£4.50	b	£5.29
Combo Pad Thick Mouse Mat	£5.25	b	£6.17
Keyboard Extenders	£16.00	d	£18.80
Keyboard Calculator	£4.26	a	£5.00
Keyboard Station (PC)	£15.90	d	£18.68
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Disk Porter Ring Binder 3.5"	£4.26	b	£5.00
Disk Clips (3) Ring Binder 3.5"	£3.25	a	£3.82
Disk Pocket Leatherette holds 6	£6.00	b	£7.05
Disk Mailer holds 6 Reuseable	£3.50	a	£4.11
Monitor Swivel Stand 12-14"	£14.00	d	£16.45
Universal 2 Pce Printer Stand	£3.00	c	£3.52
As Above with Printout Tray	£6.50	d	£7.64
Stax 132 Column Printer Stand	£13.00	d	£15.28
Monitor Filters			
Economy Glass Filter 14"	£18.40	d	£21.63
Economy Glass Filter 15"	£21.50	d	£25.26
Economy Glass Filter 17"	£65.00	e	£76.38
Light Glass Screen Filter 12-15"	£56.00	e	£65.80
Dark Glass Screen Filter 12-15"	£66.00	e	£77.55
Privacy Filter 60% View 12-15"	£85.00	e	£99.88

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Risc PC 2MB VRAM	£189.00	c	£222.08
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Risc PC Extra Slice (no PSU)	£49.00	d	£57.58
Risc PC Heavy Duty Keyboard	£64.00	d	£75.20
Risc PC Keyboard Extension	£6.50	b	£7.64
Risc PC Mouse Extension	£6.50	b	£7.64
Risc PC Mouse Mat (Rare)	£4.00	b	£4.70
Risc PC 2nd HD Fixing Kit	£6.00	b	£7.05
Risc PC Memory 4Mb	£100.00	c	£117.50
Risc PC Memory 8Mb	£195.00	c	£229.13
Risc PC Memory 16Mb	£335.00	c	£393.63
Risc PC Memory 32Mb	£735.00	c	£863.63
Risc PC 700 Processor Board	POA	d	POA

RPC 486 Games CD

A collection of over 150 of the very best PC Shareware & PD games available all on one CD ROM. Includes DOOM & Apoge Stuff **£15** & Vat

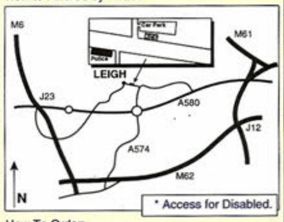
MODEMS

	Ex Vat		Inc Vat
14,400K External Fax/Modem	£75.00	d	£88.13
28,800K External Fax/Modem	£145.00	d	£170.38
Arcfax Software	£28.00	b	£32.90
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Modem Cable	£8.50	b	£9.99

Opening Hours

Monday		9am-6pm
Tuesday		9am-6pm
Wednesday		9am-6pm
Thursday	Late Night	9am-8pm
Friday	Late Night	9am-8pm
Saturday		9am-6pm
Sunday		*By Appointment Only*

How to Find Us by Road:



How To Order:

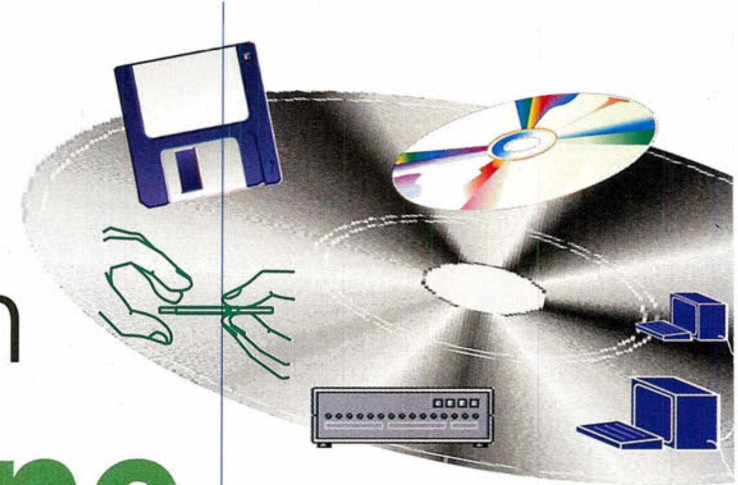
By Post - Send Full details of your order, together with payment details. Include your Name, Address & Phone Number. Always Include your Postcode.

By Phone - Our Staff will take all the necessary details over the phone, Your order will usually be sent the same day.

By Fax - As by Post - Fax No: **01942 672300**

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A=£1, B=£2, C=£3.50, D=£4.50, E=£6, F=£9.
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Starting out on the scene

Paul Wheatley has advice for readers new to Public Domain software.

The Public Domain is an unofficial 'system' of distributing free or low-priced software. A lot of software available for the Archimedes is fully commercial, meaning that it cannot be copied or distributed, except by the company that owns the copyright. This company will sell it for a profit. However, programs in the Public Domain are completely different.

Ordinary users often write their own – anything from utilities to full blown applications. In many cases it wouldn't really be viable to sell the software commercially. Perhaps it is a small utility; it may be very handy, but you couldn't really sell it. In this case, the solution is to distribute it in the Public Domain. The author may not make any money from it, but thousands of other users will be able to take advantage of it.

Many people, like myself, produce software specifically to release into the Public Domain. I believe most commercial products are vastly overpriced, and PD software is one way to combat this.

There are many types of software that can come under the general term of 'Public Domain' – these include Shareware, where the user is expected to make a small monetary contribution to the author. A brief description of some of these types is given below:

PD software

Public Domain is a general term for the 'free software scene' but it can also be used to describe a specific type of software. To avoid confusion I'll use the term PD (rather than Public Domain) to describe this type.

PD software, like Freeware, is freely distributable by everyone. It can be copied by ordinary users, put on ftp sites on the net and distributed by PD libraries. Unlike Freeware, the author does not retain copyright of the programs, which may be modified by the user.

Many people wrongly state that their software is PD, and then go on to say that they retain copyright. Always check the accompanying documentation with these programs (usually the *!Help* file inside the application) and follow the terms laid down.

Freeware

Freeware is very similar to PD, in that it can be distributed freely. However, the program's author retains copyright. This means it may not be changed or individual parts distributed separately without the author's consent, nor may anyone sell it commercially without permission. As with PD, always check a program's documentation to make sure you are complying with the author's wishes.

Shareware

Shareware is a compromise between the freedom of distribution of Freeware, and the money making alternative of commercial software. The conditions of distribution often vary between programs but, in general, it works like this:

Shareware can be distributed freely as for other PD software, but the conditions of use are different. You usually have a trial period of maybe 30 days, in which to experiment with the software and see if you want to use it on a regular basis. If you like it and want to continue using it, you have to register with the author. This usually involves sending him a small fee.

Shareware is often met with indifference by the average user. Many people simply do not register. Technically, this is against the law and has a dramatic effect on the authors. Anyone producing Shareware who receives very little in the way of registrations is likely to make their next program commercial, most likely selling for 10 times the Shareware price.

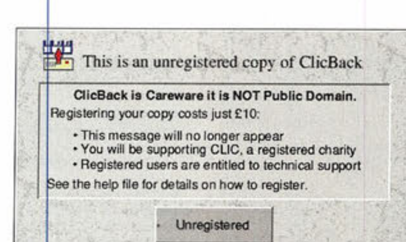
My own belief is that Shareware can succeed in opposition to expensive commercial programs, but it's down to the commitment of the individual user to make it work.

Many authors have gone for the cut-down demo strategy. This usually involves disabling the save facility, or stopping the program from functioning after a certain date. You can still try it out, but this 'demo' version isn't really usable. After registering, a fully working version is provided by the author.

Technically this isn't really Shareware, and many enthusiasts will probably throw up their arms at my next comment, but I think this form of 'Disableware' may be a better alternative.

That said, the two Shareware packages we ran on the cover disc recently – *CLICBack* and *MacroLife* – both attracted a lot of registrations, so perhaps there is hope. I'd like to hear your ideas on the Shareware issue, so please send your views to me at the usual PD page address.

Further beginners' information can be found in the PD section of the *Acorn User* World Wide Web pages. AU



Shareware packages often encourage you to register when you run them.

Recommended PD Libraries

The Datafile
71 Anson Road, Locking, Weston-Super-Mare, BS24 7DQ

Naked PD
'Fayence', Fulford Road, Stoke-On-Trent, Staffs, ST11 9QT

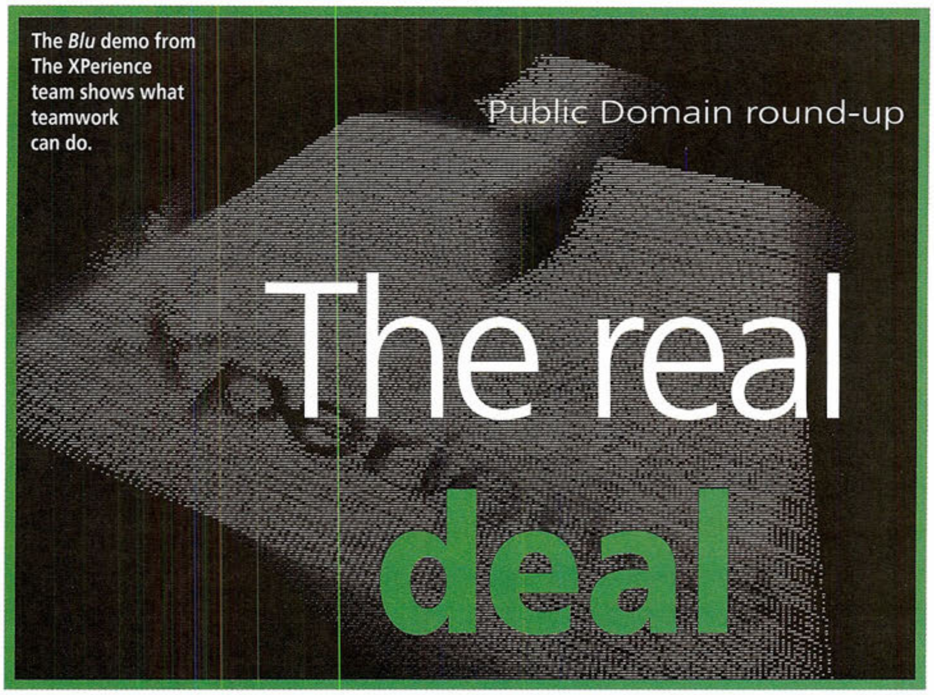
APDL
39 Knighton Park Road, Sydenham, London, SE26 5RN

Arch Angel PD
PO Box 41, Exeter, EX4 3EN

ARM Club PD Library
Freepost ND6573, London, N12 0BR

Beebware PD
83 Forrest Road, Huncote, Leicester, LE9 3BH





The *Blu* demo from The XPerience team shows what teamwork can do.

The real deal

There are plenty of ways that you can participate in the PD scene, and put something back into it, as Paul Wheatley explains.

The Public Domain has an awful lot on offer to the ordinary user. There's a massive range of programs available for free on the Internet as well as an even better selection held by PD libraries. Anyone can take advantage of this glut of free software, but there's a lot more to the world of PD than that. In this article I'm going to talk about the other side PD: putting something back into the scene.

As PD editor of *Acorn User,* I want to encourage as many people as possible to get involved with PD software. However, my regular column in the magazine is usually devoted to reviews and descriptions of how to get hold of PD software. The real situation with this kind of scene is that at least some people have to put something into this pool of free software, for anyone to get anything back.

Getting involved

There are many ways to play an active part in the PD scene. The simplest is to build up some contacts with other users and swap the software you have. Many PD libraries have swap schemes, offering new software in exchange for programs that you pass on to them. Uploading programs to the Internet or reinstating a reasonable upload ratio on your favourite BBS is also a good start.

The real way to get into the scene however is to produce your own software. Most people think that this means you have to be some sort of amazing programmer who can patch RISC OS and implement vector interrupt routines in machine code with ease. Not true; in my experience, practically everyone with an Acorn machine has customised it in some way, whether it is by programming, or just by re-designing some icons for the Desktop. Any of these things can be placed in the Public Domain.

Starting off with some sort of release into the scene is very important. After you send something off to a PD library, it's not long before you get in touch with other PD authors and users. The realisation that people are actually out there using your own software is a great feeling. As a PD author myself, I find it very addictive.

The team

Although producing large-scale PD releases usually does involve some programming, many people make the mistake of tackling a project on their own. Programmers often tend to write a really good program and then patch some naff-looking graphics and design together to go with it. At the same time many artists with no coding knowledge never succeed in implementing any of their ideas.

The solution is to produce programs as a team. If you look at the very best software (whether commercial or PD) it's usually produced by more than one person, which speaks very much for itself.

I've been writing PD for several years now, but right from the start, I've always worked as a team with other people. My programming group Quantum started off as three friends from the same area who had an interest in computers. We've now built the team up to around 20 members who are working on various projects, from music software and utilities to games and demos.

With a number of people having various specialities in graphics, programming and music, the ease of producing software (never mind the increase in quality) is a major incentive to form a group.

Getting together

If I've managed to convince you that forming a group is a good idea, you're probably wondering how to go about it. The easiest and most direct route is simply to contact some existing PD authors. Most people who have gone to the bother of writing PD software will more than likely be interested in chatting to fellow users and PD authors.

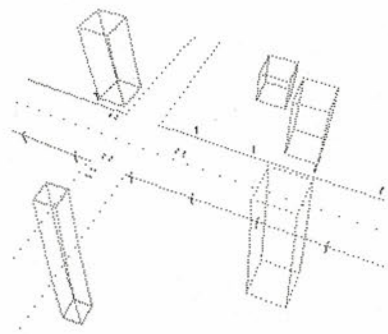
My own group has been formed by a combination of people seeing our software and then writing to me and asking to join the group, or simply by writing to authors of other programs.

An excellent example is the software produced by Tom Cooper. *Cycloids* and *Wavelength* feature the graphics and music of two of the founding members of my group. This came about after we first saw Tom's first PD game, *Gyrinus*, and decided that we'd like Tom to be a member.

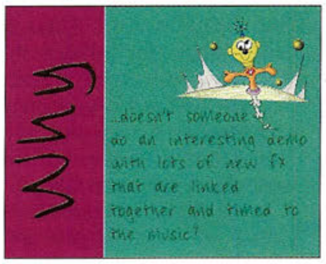
The Net

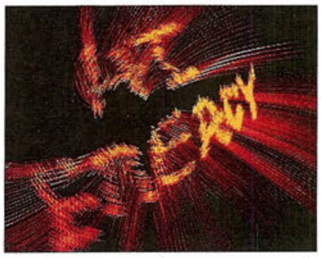
If you have a modem, one of the best ways to get in touch with other PD writers is to use the newsgroups and chat areas available on the Acorn BBSs and Internet sites. As featured in the comms column recently, the Digital Databank offers an excellent array of helplines and skillbases designed to get authors together.

The Public Domain has everything going for it really. It's a superb place to start out and produce your own programs, while offering thousands of software packages to users for free. Get out there and take part! AU



My own group produced the Liquid Dreams demo above.

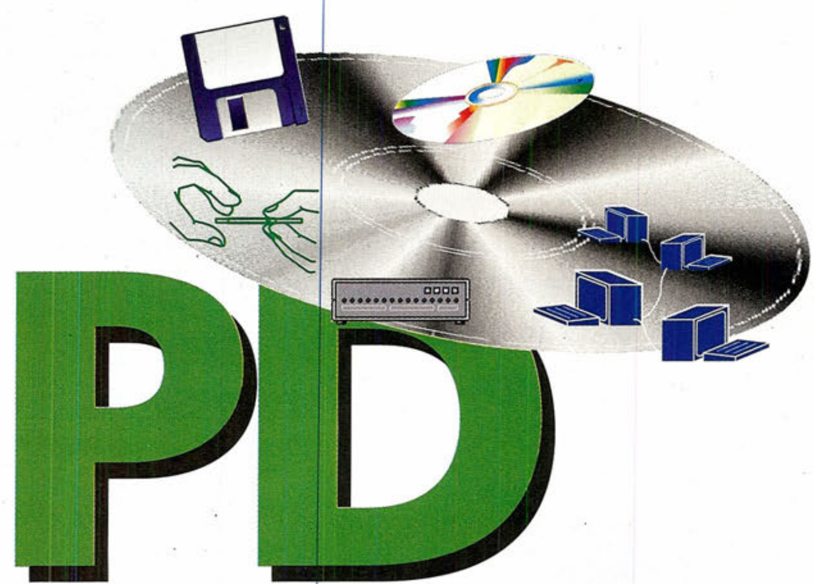






FEATURE

Essential PD



Mike Enderby looks at three tried and tested Public Domain programs that no Acorn computer should be without.

The Public Domain page normally reviews software that has only recently been released, but a large amount of excellent software has been available for some time and many newcomers to the PD scene may not be aware of it.

To try and remedy this, I shall review three of the best packages that are no longer new but are worthy of finding a permanent place in your collection. All these applications were written some time ago, but new and updated versions have been released by the authors as new features are added and errors removed.

Zap

Zap can be described as a text editor, but every RISC OS computer comes supplied with *Edit*, so why should you get another one?

The reason is that *Zap*, besides being much faster, also comes with a large number of extra features. These range from an undo buffer for putting things back to how they were before you altered them to a whole host of special modes.

Although it may seem a bit harder to use at first in comparison with *Edit*, it is well worth persisting with.

Over 18 different modes are available which are set up to assist with the editing of different types of files, ranging from simple text files to languages such as BASIC, Pascal and C. If a file is dropped onto the *Zap* icon it will attempt to select the correct mode.

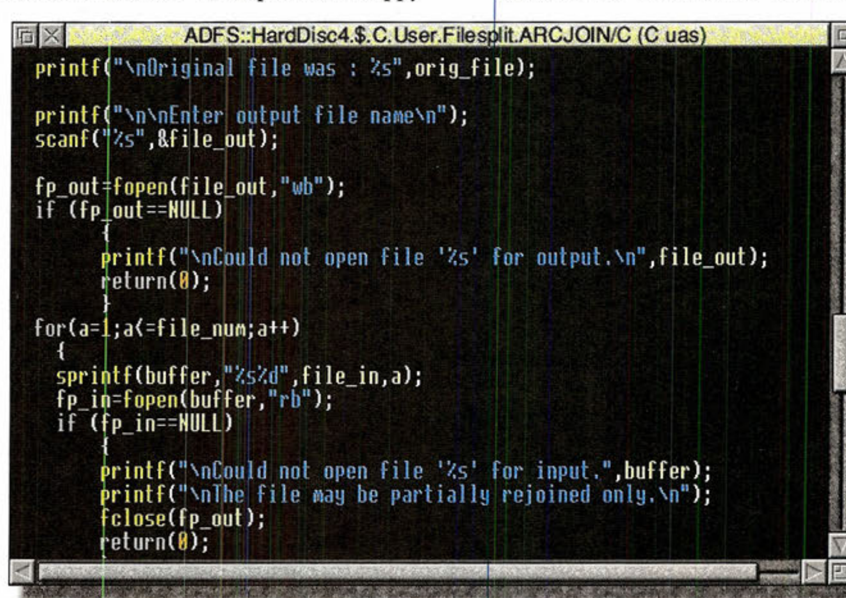
An example is a text file which is C source code; this will be loaded into the C mode, formatted and the text coloured to identify items like keywords, numbers and text (since C source code files have the &FFF text file type, *Zap* identifies them because they are stored in a directory called *c* – cunning). When writing C code it is possible to compile and run the code, examine a list of functions and use throwback when errors are found.

Other features of *Zap* are the ability to use bitmap versions of the system font for a more attractive display and to grab areas of memory or a disc for editing.

Fsck

This is rather unusual in that it is one of the programs you should have but hope you don't need to use. It's a set of three utilities which can be used to fix problems with both floppy and hard discs. You should remember to keep it on a floppy disc so that if you are unlucky enough to corrupt your hard disc you can still run it from floppy.

Fsck will scan a disc, seeing what the disc map says it contains, and compare this with what is actually there. Hopefully this will reveal that nothing is wrong but if errors are found, these can be fixed by *fsck* which can normally also recover the affected files. *Eliminate* can be used to delete broken directories which are otherwise not deleteable by RISC OS with the contents being recovered by running *fsck*. *Hardfix* will try to fix any problems with the boot block, maps or root directory which normally make the disc unusable. *Fsck* is easy to use and comes with instructions for both relative beginners and the more experienced.



Zap's colour-coding makes programming much easier.

BlackHole 2

It is all too easy accidentally to delete a file which you did not mean to and RISC OS does not allow you to undelete files. Using *BlackHole* will minimise the effects of such mistakes. Among the many features it offers is the ability to intercept files which are being deleted and to copy them to a waste bin.

Files in the bin can be restored if required or after a configurable time period automatically deleted. This process works quite well although the contents of the bin do need to be watched as it is quite easy to end up with several Mb of files stored.

There is a file finder which will search according to file type, file size and even files which sound like the filename specified. Lists of the modules left behind by programs can be entered and easily deleted which is very useful for machines with under 4Mb as this memory is otherwise wasted. *BlackHole* also includes several screen savers and an icon bar clock. AU

Availability

Zap, *fsck* and *BlackHole 2* are available from Digital Databank and Northern Arm BBSs and also from the Stuttgart and Hensa ftp servers, as well as from good PD libraries. *Zap* and *BlackHole 2* are Freeware, *fsck* is Shareware with registration costing £5 or equivalent.

A3000 upgrades

Memory

1-4Mb	£109
1-2Mb	£39
(See also the "2nd user" section)	
1-2Mb (upgradable to 4Mb)	£54
2-4Mb upgrade pack	£72
4-8Mb	£224

The above upgrades are all constructed on four-layer boards, as recommended by Acorn. Gold plated connectors are used for reliable contact with the A3000 main board. There are no clips or wires, and no soldering is required. Some older types of 2Mb board cannot be upgraded to 4Mb, but we offer a trade-in allowance. Please phone for details.

Hard drives

A range of internal hard disc upgrades is available. The upgrades simply plug into the internal expansion slot. Also suitable for the A3010.

80Mb	£149
120Mb	£185
170Mb	£205
240Mb	£230
RISC OS 3	£39
ARM3 (25MHz)	£129

(Dealer fitting recommended for the ARM3)

A3010 2-4Mb RAM upgrade
Introductory price £79

RISC PC 8Mb SIMM £185

A5000

Memory

2-4Mb	£74
4-8Mb	£234

Dealer fitting for the 8Mb upgrade is recommended for the 25MHz A5000.

A3020/A4000

Memory

2-4Mb	£74

Hard drives

80Mb	£89
120Mb	£125

A400/1

Memory

Per Mb (up to 4Mb)	£38
4-8Mb	£224
RISC OS 3	£39
ARM3 (25MHz)	£129

Hard drives. For prices, refer to the A310 section.

Various

SCSI card	£79
Alsystems SCSI 2	£170
ARM3	£129
RISC OS 3	£39
MEMC1a	£39
MEMC1a (2nd User)	£20
Hard disc cradle	£6
Fan filters (pack of 5)	£3
RISC OS manuals, no vat	£22
Dongle dangle	£6
Chip extractor tool (for eg MEMC, ARM2)	£4
CDFS upgrade for Oak SCSI card	£25

The following item is reduced to clear. Please phone to check availability.

Wordworks	£23

How to order: Please add VAT (17.5%) to all prices. Cheques made payable to IFEL. Most Credit cards accepted, and Switch. Official orders welcome.

A3010 upgrades

Memory

1-4Mb	£115
1-2Mb	£38
2-4Mb	£79

The 2-4Mb upgrade is constructed on a compact four-layer board. No soldering is required.

Hard drives

A range of internal hard disc upgrades is available. The upgrades simply plug into the internal expansion slot. For prices, refer to the A3000 section.

A310 upgrades

Memory

1-2Mb	£89
1-4Mb	£119

All our A310 memory upgrades are constructed using four-layer circuit boards. There is no other 300 series RAM upgrade which has been available for as long as this one, and which has the same reputation for quality and reliability. A fitting service is available.

4-8Mb	£224

Hard drives

A range of internal hard disc upgrades is available. Prices below are for complete systems, including metalwork, controller card and cables as appropriate. No specialist knowledge is required either for installation or use. A backplane is normally required in order to fit a hard drive.

IDE	
425Mb	£165
540Mb	£195
Larger sizes	£Call
SCSI	
540Mb	£215
1Gb	£284
Backplane (4-slot, four-layer)	£49
Fan for above	£8
RISC OS 3	£39
RISC OS carrier board	£17
ARM3 25MHz	£129
MEMC1a	£39

RISC PC

Extra RAM (SIMM)

4Mb	£95
8Mb	£185
16Mb	£323
32Mb	£Call

SIMMs taken in part exchange (4Mb or larger).

2Mb VRAM	£139
RiscPC600	
4M, HD425 AKF60	£1148
4M, HD425 AKF85	£1426
RiscPC700	
5M, HD425 AKF60	£1360
5M, HD425 AKF85	£1635
10M, HD850 AKF60	£1692
10M, HD850 AKF85	£1970
486PC card (when ordered with RISC PC)	£99

2nd User

Please phone to check availability.

A3000 1-2Mb	£27
A3000 RAM board (ie bare board, no chips)	£5
A5000 2-4Mb	£58
4Mb SIMM (Risc PC)	£85

Spares/Repairs

We carry stocks of most replacement chips for the Acorn range. (MEMC, VIDC, IOC and most memory devices). We can also fit any upgrades and offer a computer repair service.

Educational and quantity discount available.
Dealer enquiries welcome.

All products (except some marked "2nd User") are fully guaranteed for 12 months. All items normally carried in stock have a 14-day money-back guarantee. Please note that the cost of memory products varies - please phone for the latest pricing.

IFEL

34 Culver Road, Saltash, Cornwall PL12 4DR. Tel (01752) 847286. *Fax (01752) 840029*

REVIEW

The Arc of the Covenant

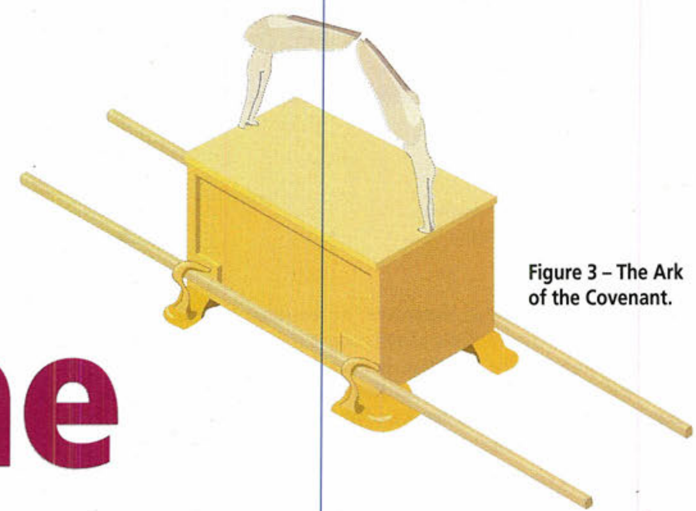


Figure 3 – The Ark of the Covenant.

Explan's HolyBible software has been praised as one of the best resources of its kind on any platform. The Reverend Colin Randall finds out why.

Acorn computers are excellent for churches because of their excellence for DTP; indeed last year the joint winners of the Anglican Parish Magazine award were both produced on Acorn systems using *Impression*. However in the past Acorn users have had to look somewhat enviously at PC packages of church specific software, such as *Bible study*. Now at last Acorn users have their own Bible software thanks to ExpLAN's *HolyBible*.

The total software project is very large and comprehensive. The aim is to provide software for serious Bible study in the original languages, resources for use in schools, and foreign language versions, Russian and Welsh for instance, all of which can interact together as a real multimedia package. The project is still in its early days, but what is currently available is very good and what is coming out will make this potentially the best Bible software on any platform.

Different versions

The package is modular and the base pack comes with the King James version which, contrary to popular belief, in its English form is not in the Public Domain (unlike in America). Other versions currently available are the New International Version (NIV – anglicised) and New Revised Standard Version (NRSV – American edition). By the time you read this the Good News version should be available (including the apocrypha), as should Hebrew (Old Testament) and Greek (New Testament and Septuagint). The Revised English Bible will be available later.



Figure 2 – One of the maps that comes with the base pack.

The scale of the total project becomes clearer when you learn that foreign language versions of the Bible are being produced. Russian is currently available (complete with Cyrillic font) and a Welsh version should be available soon in the new year.

Text display

The first thing that strikes you is the quality of the text display (figure 1). The fonts are those used in printed Bibles together with the paragraph headings and translator footnotes. This is no mere frill, it makes the text readable, and if you don't like the default setting you can always change it to any size or colour. This is one of the main ways in which this is superior to other Bible software; being easy to read makes it easier to find what you are looking for on the screen with fewer headaches.

Poetry is displayed as poetry, prose is displayed verse-by-verse. The translator's footnotes are a feature of most printed Bibles yet are missing from many software packages.

They are very useful as they often show variant readings. For example, Genesis 1:26 has a different translation in the NIV and NRSV; the translator's footnotes show that the NIV is following the Hebrew text and the NRSV is following the Syriac.

Multiple windows can be opened from either the same or a different translation. It is possible to 'link' translations so that changing the verse in one translation automatically changes the verse in another – invaluable for study purposes. The info bar shows where you are, and there are a variety of ways of moving through the text: scrolling, by choosing a reference from a menu, or moving by book, chapter or verse.

Text can be exported as paragraphs, which is when you are most likely to want it in that format (for study purposes, when comparing translations, verse-by-verse display is actually preferable). Exporting text is very simple and is in plain text (or with styles if you use *Impression*). The latter will make this product very attractive to *Impression* users wanting to produce Bible Study materials (although please read the licence agreement).

Verse numbering displayed is for the version you are using, but hidden away (although available at the touch of a key) is the Hebrew verse numbering which means that everything links up to an international standard. This is unimportant if you only use English versions, but necessary when you start to use the original languages.

Other resources

As well as Bible texts ExpLAN is producing various other resources. These are in a number of formats: text, images, or even video (though there are no videos available yet). With the base pack you get two maps – one for the Old Testament period (figure 2) and one for the New Testament. These are both in *Draw* format and can be exported.

There is also a drawing of the Ark of the Covenant (figure 3), a photograph of a baptism (in Tavistock), some text commentary, and Strong's dictionary. Apart

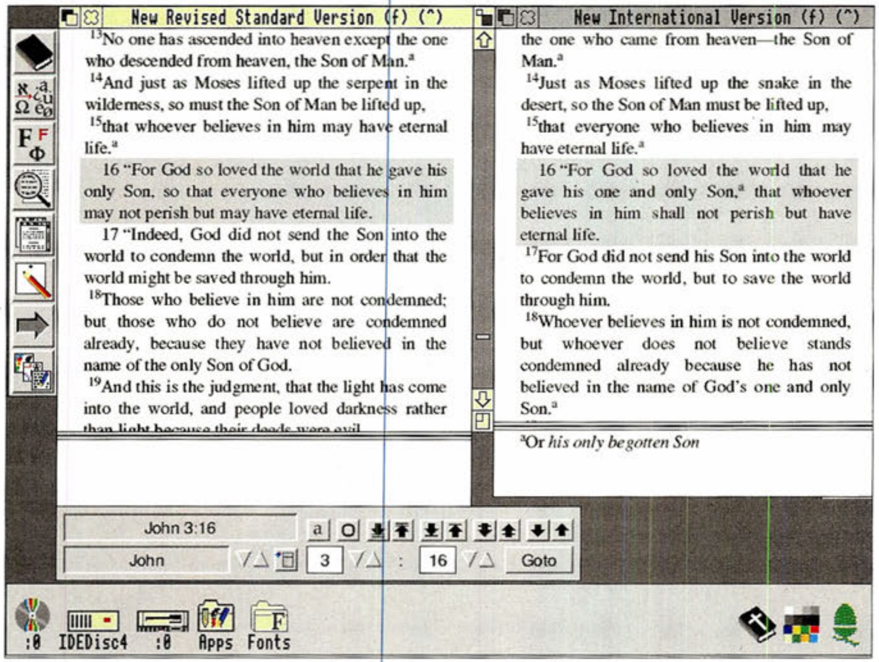


Figure 1 – The verse-by-verse display, here allowing two Bible versions to be compared easily.

from the dictionary all resources can be accessed from the resources button on the tool bar. Resources are 'tagged' to Bible references and so whatever passage you are looking at, the relevant resources are displayed.

The other resource currently available is a set of NRSV Study Notes written by American scholar Howard Kee. These come with the NRSV, but once loaded any resources can be accessed with any Bible version.

With the Good News Bible will come about 70 of the Annie Volloton line drawings (with hopefully more later); more exciting is that there will be an Educational Pack coming with the REB which will include many more maps and illustrations (both drawings and photographs from Israel). Also in the pipeline is a resource builder utility which will

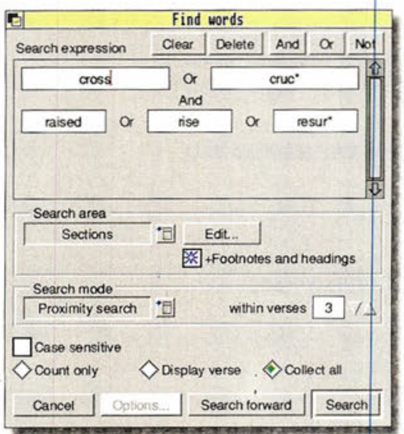


Figure 4 – Searching in *HolyBible*.

enable you to 'tag' your own resources to the text.

Strong's Dictionary allows people who don't know Greek or Hebrew to find out what does lie behind the English. Almost every word in the King James Version has a number and from that number you can get window showing what the Greek or Hebrew word was, how many times it is used in the Bible, and what the different ways it is translated are. ExpLAN is also planning to add more Dictionaries.

Searches and notes

Searches can be by single word, word combination, or phrase. Wildcards can be used and verse proximity set. Searches are very easy to set up and very clearly displayed, 'OR' options are shown horizontally, 'AND' options are vertical (figure 4). The way this is displayed is again far better than I have seen in any other Bible software package.

Finds can be just counted or displayed as a list which can be saved. All the references are dynamic and double-clicking on them calls up the passage (this is the case with commentary and notes files as well, even your own). You can also search using Strong's numbers. Searches can be entered by dragging a word to the dialogue box, which makes searching with the original languages a lot easier.

One slight niggle is that although the text of a verse is displayed, it is only one line of a verse and not the whole verse (unless the verse is very short), which is a nuisance if you want to print out the list of verses found.

Notes files can be verse lists of your own, or saved from searches. Verse lists can be re-ordered or sorted into Biblical order. All this is very flexible, but notes files do have to be stored and loaded from another Directory and cannot be accessed from within *HolyBible* itself until they are loaded, which can be a bit of a fiddle.

It's a shame there isn't a way of at least entering a Directory address so that *HolyBible* could find notes by itself. Once the Resource builder is available I think that will be the best way of compiling your own notes.

Conclusion

This is an excellent piece of software and very easy to use (interactive help is supported). In certain respects it surpasses much on the PC platform, and what it currently lacks (more translations and resources) are being worked on – my only regret is their slow appearance; at least it gives time to save up for them.

Nevertheless I still have a wish-list based on what is available with some PC packages: a set of cross-references such as that supplied by *The Treasury of Scripture Knowledge*, the ability to do searches on the resources and to compile my own dictionary, and finally lots more resources (commentaries, dictionaries and so on).

When you bear in mind what ExpLAN has achieved with this software (and software development is only part of what it does) it is to be congratulated on a very valuable product. AU

● *Rev Colin Randall is an Anglican vicar in Oxfordshire and runs the Christian Acorn User Group, Tel: (01993) 881270.*

Product details

Product: HolyBible
Supplier: ExpLAN
Tel: (01822) 613868
Fax: (01822) 610868
Prices:
HolyBible base pack inc. King James version, Strong's – £70
NIV – £25
NRSV and Cambridge Study Notes – £45
Russian Synodal Text and Cyrillic font – £45
Good News Bible inc. Apocrypha and 70 Draw file illustrations – £45
Revised English Bible and maps, photos and line-drawings – £45
Biblia Hebraica Stuggartensia and Hebrew font – £45
Novum Testamentum Greace (Nestlé Aland 27th) and fonts – £45
Welsh Bible – £25
Multimedia resource builder utility pack – £30
(All prices + VAT)



WACOM PRESSURE SENSITIVE GRAPHICS TABLETS

It's time to get *sensitive* about the way you *create* your graphics

....

Many computer users feel that a graphics tablet is more natural to use than a mouse and without doubt it gives a much faster, smoother and higher resolution response. The mouse remains functional and can be used at the same time as the pen — however the pen has such a natural and precise feel, you will probably prefer it for many operations such as moving windows, drag and drop, region selection etc.

The new (approximately A6) ArtPad tablet offers a superb specification, even by Wacom standards; resolution exceeding 2000 dpi, 200 samples per second and 256 levels of pressure. All Wacom tablets include a cordless pen for added ease of use and flexibility.

The tablets are pressure sensitive, so in combination with suitable applications they can produce realistic effects such as variable width (the Eesox ArtWorks pressure sensitive tool) or variable density airbrush painting (PhotoDesk). The Computer Concept's drivers will be compatible with these and other software that can take advantage of the pressure information, such as Studio 24 and DA Picture.

Computer Concepts can supply the tablets with either Photodesk or the Eesox Pressure Tool at special prices. **PHOTODESK** is a photo retouching package from Spacetech, which offers a wide range of advanced image manipulation features; for example an airbrush, paintbrush and magic wand, full 24 bit colour support, the use of virtual memory, OLE with Impression, complete undo, effects such as colouring, toning and masking, motion blurring, cloning and smudge and smear.

The package contains the Wacom tablet (A6 ArtPad, A5 or A4) and manual, a cordless pen, Computer Concepts driver software suitable for all models of Acorn RISC computer (A3000 must have serial port upgrade) and PC drivers. Requires 1Mbyte or more.

Price: A6 ArtPad & drivers: £169 + VAT (£198.57 incl.) A5 tablet & drivers: £399 + VAT (£468.82 incl.)
A4 tablet & drivers: £549 + VAT (£645.07 incl.)

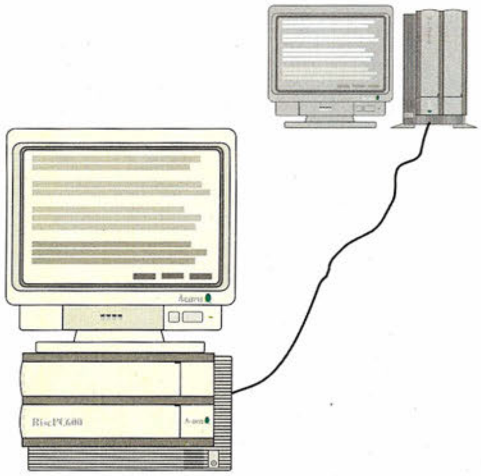
ArtWorks Pressure Tool with tablet: add £10 + VAT (£11.75 incl.)
PhotoDesk with tablet: add £125 + VAT (£146.87 incl.)

ArtWorks Pressure Tool: £39 + VAT (£45.82 incl.) PhotoDesk: £169 + VAT (£198.57 incl.)

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Remote control



Fed up with ANSI terminal screens for accessing BBSs? Chris Jackson tests out RSDFS, an alternative approach.

Over the past year there has been quite a lot of talk about a new communications system for the Archimedes, *RSDFS*, or Remote Serial Disc Filing System. Many people were, and still are sceptical about the system, but it is being run on a number of BBSs around the UK either alongside a more traditional BBS package or as a stand-alone BBS server called *Immediate*.

In the base *RSDFS* package, you get the *RSDFS_M* server application and *RSDFS_S*, a 'slave' application. The slave is Freeware and allows other machines to connect to the server via the serial port. This connection can be via a null modem cable or between two modems using a phone line; however, you can only have one connection per serial port, up to a maximum of five.

Setting up

Installation of the master is quite easy; you simply double click on the application and it loads onto the left hand side of the iconbar. You then configure the software and the filing systems that the remote users can access from a dialogue box. Editing the multimedia side of *RSDFS* was rather difficult and was not very self explanatory, but good results can be produced if you persevere.

The full system only comes with a short printed manual, but Acorn interactive help is supported throughout, which is very useful.

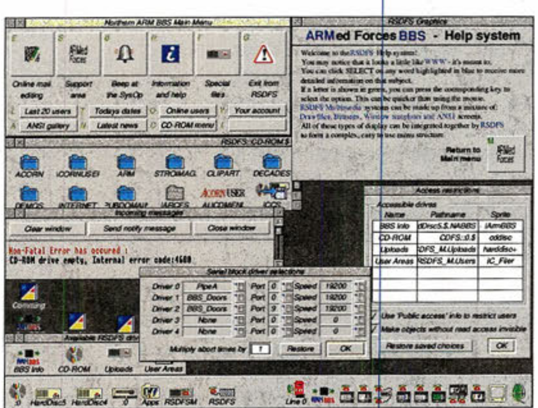
An inexpensive server/client-style network can be run using *RSDFS* with computers linked by their serial ports, though if you want to connect more than two you'll need a dual serial card. It's not a solution to contemplate if you need speed – even at 11.52Kps on a Risc PC it crawls compared with Ethernet – and it doesn't come close to presenting a full Filer interface. You can only have one window open at a time, you can't run files or applications and *RSDFS_S* had a nasty habit of freezing the client machine, though happily the server software was very robust when such errors occurred.

To access the multimedia capabilities of the package, the remote user has to load up more than half-a-dozen sub-tasks, though these are only loaded when needed. One major feature of the package is that it can be linked through a standard BBS server (*ARCbbs* or *ArmBBS*); this doesn't seem to deteriorate the overall speed of *RSDFS* much.

In use

For testing I used an average 14400bps connection as well as a local logon to the server, and I also let various users of my BBS test the package. The multimedia capabilities are passable and are made up of a mixture of templates, sprites and *Draw* files, as well as the more exotic sound samples, hypertext and ANSI text files.

When users were accessing the package, many reported various errors which seemed to occur randomly, and couldn't be fixed other than quitting the tasks and starting again. In particular the Notify system had a tendency to lose the connection.



Bulletin Board access never used to look like this.

Conclusion

If you want a multimedia BBS server *RSDFS* is the only one available at the moment, so you would have to give this package a lot of thought. It had an average file transfer speed of 1,600cps which compared reasonably with other BBS servers.

It's brilliant for BBSs with CD-ROM drives as accessing them via the usual text interface is awful, but the multimedia capabilities of the package, although a good idea, are poor in performance. I'd far rather have a reliable connection with an ANSI terminal than an unreliable multimedia one; reliability problems can of course be ironed out in time, and the software is constantly being updated by ARMed Forces.

If you have access to a modem, you can download the free client from the ARMed Forced BBS and use this to access the multimedia front-end to the BBS and try out the software for yourself.

BBS Sysops might well consider offering an *RSDFS* 'door' to their Boards, but I'd be wary of running *Immediate* as the only way of accessing it. The software should gain some recognition for attempting a revolution in the was BBSs are accessed, even if it is not yet itself the perfect solution. As a cheap way to network two machines, *RSDFS* suffers from being limited by the serial port speed, but then it's also a lot cheaper than two Ethernet cards. AU

Product details

Product: RSDFS
Supplier: ARMed Forces
Tel: (01962) 880591
Modem: (01962) 880003
Price: £38 (no VAT)
Multimedia add-on: £28 (No VAT)

Pros: Good looking RISC OS-style interface • Free front-end • Cheap networking solution for two machines

Cons: Relatively slow • Quite expensive • Multimedia side not easy to set up

Desktop Projects Ltd

TopicArtCD



Multi-format ClipArt for Acorn & PC Computers



The TopicArt CD-ROM contains over 2000 TopicArt clipart files, each available in Draw, ArtWorks & Corel EPS format. Many of the ArtWorks files are improved versions of the Draw files and the EPS files have been produced from the ArtWorks files. The Draw and Artworks files can be viewed before loading using the !Thumbnail clipart browsing application located in the root dir. The disc also contains some Replay, Render, digitiser files.

£34+VAT (£39.95 Inc)

QuickTile £25+VAT

(Version 1.02)



Up until now it has only been possible to print posters from Draw & Sprite files. Now with QuickTile you can create posters from any RISCOS application, including Impression. Simply enter the size of poster required & select PRINT from the application! QuickTile does the rest, printing each tile with crop marks and tile references. RiscPC compatible. **Requires RISCOS 3.10 or later. Return Disc with SAE for upgrade from earlier version. Upgrade from Tiler for £15+VAT.**

QuickShow £10+VAT

!QuickShow
Video Titling
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Slide Show Presentation
Has never been easier!

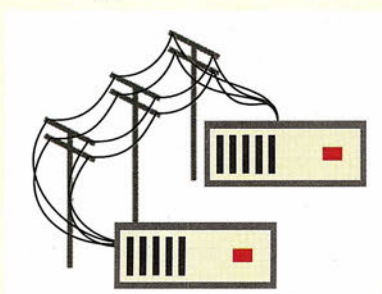
The easy to use slide show presentation and video titling package. Create sequences of frames in modes 15/21 containing text of any colour with drop shadows, outline shadows and rubout boxes using the RISCOS fonts. Sprites can also be included in frames and positioned and resized as necessary. Several screens can be linked together with the sequencer which allows you to fade each screen out and in with the many fades provided. Completed sequences can be converted into stand alone applications. 2Mb RAM required and a hard disc is recommended.

QuickLynk

Software only £28+VAT

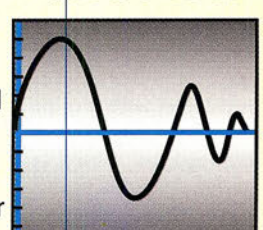
Software & Cable £34+VAT

(Please specify which computers you will be using with QuickLynk when ordering)



QuickLynk allows you to automatically access another Acorn RiscOS computer remotely using the serial port via modems or locally using a cable to connect the two computers. Each computer can be configured to allow access to any attached filing system device eg ADFS, IDE, SCSI, CDFS, etc. Once connected, files can be transferred to/from the remote computer. Other features include password access, auto dialler with phone book and chat mode to send messages to remote computer/user. Ring for further details.

QuickSnd £10+VAT



Load, play, convert & resave existing Armadeus, Tracker and raw data sound samples. Apply special effects including Reverse, Echo, Max Vol, alter replay rate and resample frequency. Convert samples into modules for use with the RISCOS sound system etc. Create stand alone Utility modules which when called, via star commands, automatically play and then remove itself completely from memory (this feature is not available on any other sound package). Use Utility sound modules with RISCOS Alarm to play on activation of an alarm. On screen VU meter included.

Ring now for further details

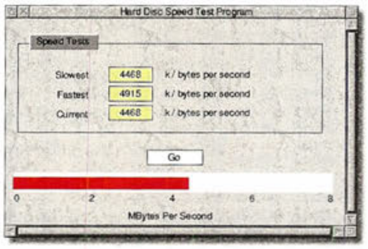
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RapIDE interface

Many applications require a great deal of speed to be of use. Thankfully, a Risc PC can offer enough speed for many processor-hungry applications, but that's no good if your hard drive can't keep up with the demands of the processor.

The internal IDE interface of the Risc PC is not what you might call fast, although it's better than the old drives fitted to original A300 and A400. Usually, if you want greater speed, you go for a SCSI interface and drive. This gives the added bonus of upgradability with a possible eight devices being permitted on the chain, but the costs are higher. Now there's an IDE answer – RapIDE 32.



The performance figures from RapIDE 32 and a Quantum Fireball 1Gb drive.

Using this interface card – which simply plugs into a podule slot – you can connect a further four IDE (ATA-2) hard drives to your Risc PC. One of these can be the drive already in the machine – the interface should almost double its speed – or you can buy a Quantum Fireball 1Gb drive with the interface.

If you're running RISC OS 3.5 you'll only be able to format the drive to 512Mb because of the size restrictions with FileCore.

If you've got a new machine with RISC OS 3.6 or are running the soft-loadable FileCore modules, you can format the drive to its full 1Gb capacity. Unfortunately, the review model does not support partitioning, but this facility is promised for the future.

Yellowstone claims that with a fast drive such as the Quantum Fireball RapIDE is faster than competitive SCSI-2 systems. This is a bold claim but the test figures certainly do indicate that this system is fast.

The following timings are approximate and are taken without Interactive File Copying a 29Mb directory from the original 420Mb Risc PC drive back onto itself took 95 seconds; doing the same on the Quantum Fireball took 35 seconds, one minute quicker than the original drive in the Risc PC.

Such figures back up the claims of the speed test software supplied with RapIDE. My original drive showed a maximum throughput of 1,694K a second while the Fireball, controlled by RapIDE, showed 4,915K a second; nearly three times faster.

If you want to produce power-hungry video or top-notch graphics where the speed of data transfer is imperative, you will need something a little faster than the standard drive. If you don't need a SCSI system, bearing in mind that many new peripherals support IDE, RapIDE 32 is a good investment.

Andrew Banner

Product details

Company: Yellowstone Educational Solutions
Telephone: (01582) 584828
Fax: (01582) 562255
Price: Card only £145.70 inc VAT
With Quantum Fireball 1.08Gb drive £380.70 inc VAT

Pros: Cheaper than SCSI 2 equivalents
Controls up to four devices
Exceptionally fast for an IDE interface

Cons: Not as flexible as SCSI 2 systems

(Mail Order Tel: 01924 254800)

All RiscPC's & A7000's include 1yr on-site maintenance.

18th Nov 1995

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4M/HD425 14"mon. £1148.00e

RiscPC 700(arm710)
5M/HD425 14"mon. £1360.00e
10M/HD850 14"mon. £1692.00e
For 17"AKF85 monitor Add £278.00
For CDrom Drive 2x Add £111.00
For CDrom Drive 4x Add £149.00

All Computers are built and tested before dispatch with printers and software purchased installed as required at no additional cost

RiscPC Upgrades
486-SX-33 PC Upgrade *when purchased with RiscPC*	£99.00c
486-DX2-66 PC Upgrade	£249.00c
486-DX4-100 PC Upgrade	£299.00c
PC Exchange	£25.00a
Windows 3.1 + DOS 6.22	£95.00c
Access+ Card	£99.00b
Arm710 upgrade	£125.00b
Movie Magic	£237.00b
Second Slice	£99.00d
Sound Card	£59.00b
RiscPC 2Mb RAM	£59.00b
RiscPC 4Mb RAM	£129.00c
RiscPC 8Mb RAM	£199.00c
RiscPC 16Mb RAM	£339.00c
RiscPC 1Mb VRAM	£129.00a
RiscPC 2Mb VRAM	£199.00c

Archimedes Computers
A3020 (1.6 Floppy Disc,2Mb ram, AKF53 M/S Monitor)
Floppy Disc System £509.00e
80Mb Hard Disc Sys £637.00e
For 14'AKF50 monitor Add £37.00d

A4000 (1.6 Floppy Disc,2Mb ram, AKF53 M/S Monitor, 210 Mb HD)
210Mb H/Disc Sys £722.00e
Add £37 for AKF50 Monitor

A7000 (1.6 Floppy Disc,2 or 4 Mb expandable to 130Mb ram, Arm 7500 AKF60 M/S Mon, 425Mb HD, on site 12 months warranty)
2M/HD425 14"mon. £935.00e
4M/HD425 14"mon. £1020.00e
For CDrom Drive Add £111.00

Software Packs:
if purchased with new computer
Early Years £63.83d
(Talking Starturite, Flossy the Frog, A Mouse in Holland, Doris the Dotty Dog, Amazing Maths, Gemini, Paintpot)
Home Office £106.38d
(Easy Writer,Data Power,Pipedream4 PC Soft dos 6, Demos)
Learning Curve £63.83d
(Advance, PC Soft / Dos 6, Demos)

Portable Computers
A4 4m 80Hard Disc £1149.00d
(1.6 Floppy Disc,4Mb RAM, 80Mb HD,LCD Screen, PC Emulator)

Pocket Book 2(256k)	£205.00c
Pocket Book 2(1MB)	£285.00c
A-Link	£40.49b
M-Link	£64.80b
PC-Link +	£68.00b
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Logix

Stephen Wade examines a circuit simulator from Silicon Vision.

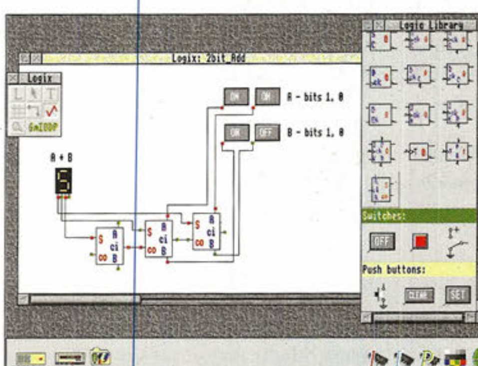
Logix is a digital circuit simulation tool that allows electronics students to investigate the logical behaviour of circuits. Supplied in a typical Silicon Vision video box, the package comprises a 68-page, A5-size manual and two discs. Contained on these are three RISC OS applications – *Logix*, *Integrate* and *PinOut* – and a large library of components. Each application initially consumes a mere 64K, presenting entry-level, 1Mb floppy disc-based machines with no problems.

The bulk of circuit design and all simulation is performed using *Logix*. Circuits are constructed by selecting components from a device window, affixing them to a design sheet (the main window) and wiring them together. The device window features a subset of the component library, including:

- 2-, 3- and 4-input AND, NAND, OR and NOR gates
- D-type, JK, SC and toggling flip-flops
- an inverter
- a buffer
- a clock with adjustable pulse

The range can be enlarged by dragging component files to the window.

Wiring is achieved by clicking close to the output of one component and the input of another respectively – connections cannot be made in the opposite order. The *Logix* routing algorithm is primitive, each wire featuring only one horizontal and one vertical section. Up to 12 nodes can, however, be manually inserted in each connection to reach a more suitable wiring pattern.



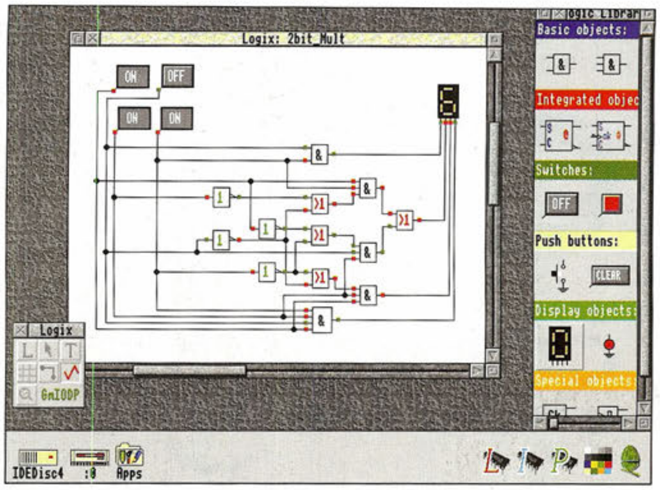
Half-adder integrated circuit modules are combined to form a 2-bit adder.

Nodes also act as junctions from which other wires can be spawned. This allows each output line to feed a large number of inputs. Any piece of wire that has another connected to one of its nodes cannot be adjusted to contain a different number of nodes.

During the wiring process, the pointer has a tendency to jump between the inputs or outputs of the constituent components as the pointer is moved. This can prove quite distracting and is unnecessary, since you are still required to click on the desired outputs and inputs to form a connection.

To run tests on a design, the *Logix* simulation mode is engaged. Clicking on devices such as switches or open inputs to components changes the test data set. This in turn causes logic levels to be updated throughout the circuit, reflecting the change in input. Similar changes to the test data are made by automatic devices such as clocks.

Outputs can be observed directly at each component, through a display unit such as an LED or using the special oscilloscope feature if probes are positioned in the circuit.



A simple 2-bit multiplier is put to the test.

Circuits are saved either as special circuit files which can be reloaded into *Logix*, or in *Draw* file format. As well as permitting circuit diagrams to be included in DTP documents and so forth, the latter provides the only solution to printing from *Logix*.

The two remaining applications are much less sophisticated than *Logix* and used less frequently. *Integrate* lets you seal a finished circuit in a casing, thus creating a stand-alone integrated component which can be added to the library and used in other circuits. Whenever a suitable casing can't be found in the library, *PinOut* lets you build a custom unit.

Through these applications, *Logix* promotes modular circuit designs in which the upper levels contain only a few integrated components and input/output devices. This could be usefully exploited in the classroom by assigning several teams of pupils to design component modules for a large, sophisticated circuit.

The functionality of the software is generally well described in the manual, but there is a noticeable lack of tutorial material. Thankfully, the package redeems itself through effective use of the interactive *Help* system – something which is too often forgotten by software developers.

Because the software is concerned with logical and not physical circuit characteristics, it can't be used to simulate circuits which contain capacitors, inductors, multiple power supplies and so forth. This is not necessarily a shortcoming, but does somewhat limit the potential of the software.

Logix is a good package with enough features to satisfy most students of digital electronics. Though certain attributes could be improved – the wiring scheme in particular – it produces clear, accurate simulations from which design flaws can be detected with greater ease than conventional hardware-based investigations. AU

Product details

Supplier: Silicon Vision
Tel: 0181-422 3556
Fax: 0181-248 3589
Price: £99.95 + VAT (£300 + VAT for 20-machine site licence)

Pros: Single- and multi-tasking simulation modes • Zoom facility for fine-tuned positioning • Good interactive help • Runs easily on 1Mb machines

Cons: Unfriendly wiring scheme • Printing only possible via Draw • Manual lacks tutorial material

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Even a quad-speed CD-ROM like proTeus is slow in comparison to most hard discs. *SpeedyCD* improves matters by using cacheing techniques to look ahead and anticipate the user's requests, improving the apparent responsiveness of the drive.

SpeedyCD is supplied free with this offer.

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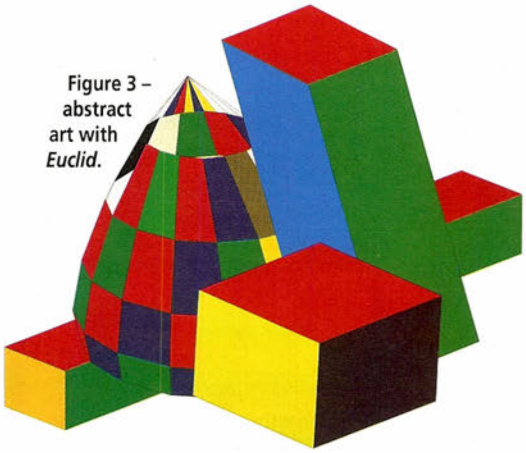
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Figure 3 – abstract art with *Euclid*.



3D Studio

Pete Worrall enters a new dimension in the third part of his design tutorial.

We all exist and move about in a 3D world and, in the past, artists and designers have attempted to understand and depict this world using constructed models and 2D pieces of paper as a medium.

It comes as no surprise that a computer system is able to create and visualise 3D structure and space in a new way that enhances and enriches our conceptual understanding, whether we are designing a new food container, building a conservatory or creating whole new environments in which to live.

Acorn users are spoilt for choice when it comes to 3D design software, so how do we get started and what's available?

Cubes in Draw

A simple way to begin, as always, involves that all-powerful *Draw* application (supplied free with the machine). A simple cube drawing can be constructed using the isometric grid (accessed from the Grid submenu).

With the grid locked you can create a simple cube by using the straight line segment tool; figure 1 shows an example. Each parallelogram can be assigned a different hue to give the illusion of shadow and once one cube has been created it can be grouped and copied.

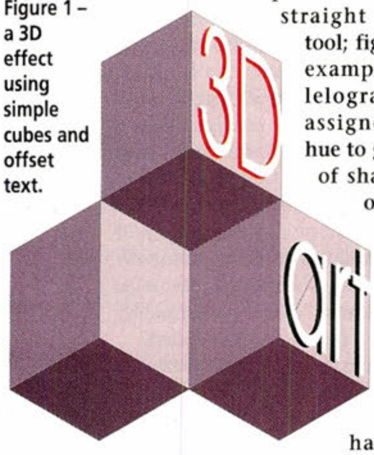


Figure 1 – a 3D effect using simple cubes and offset text.

When two further cubes have been joined you have created the illusion of 3D on a flat screen, an optical illusion.

Further enhancements can be made by loading the cubes into *Revelation Image Pro* – £49 + VAT from Longman Logotron: (01223) 425558 – and applying graduated fills on to each surface; in figure 1 I exported the drawing into *ArtWorks* – £169 + VAT from Computer Concepts: (01442) 351000 – and used the perspective tool to place graphics on to the sides of the cubes. This method could be applied to different sorts of packaging design work for a whole range of commercial products.

Conservatory design

One of my recent 3D modelling projects has been my house extension. My garage was to be converted into a room with a conservatory on the back. I decided to visualise the conservatory design using my trusty Acorn computer so that instead of submitting a rough drawing for the builder he would receive a computer printout. To do this I digitised the back of the house and saved it as a greyscale image so it would contrast with the colour outline I would use (in *Draw*) for the extension.

Next the digitised sprite was loaded into *Draw* for treatment. It was exciting to build the structure on to the house and the strong perspective viewpoint helped me to create a reasonably accurate drawing which was completed in about half an hour. This 'virtual design' – more on this next month – was presented to the builder who was delighted and immediately started work on the job. He reckoned this had saved him time in discussion and I felt I had ownership of the original design. Anyway judge for yourself and have a look at the result (figure 2).

Euclid – the original

Euclid – £50 + VAT from Oak Solutions: 0113-232 6992 – is an object-oriented 3D graphics system and it was my initial introduction to 3D on the Archimedes many years ago. Strictly speaking, it's really a mindboggling 3D version of *Draw*, albeit showing its age (like me) these days.

The guidebook states that you can use it to construct scenes made from collections of 3D objects and then view the results from any angle and in a variety of styles. Ignoring this I discovered that *Euclid* also has great artistic appeal, and one of the first things I ever did was to create modern sculpture.

The easiest way to use *Euclid* is to form groups from predefined objects: a sphere, cylinder or cuboid. The objects created have markers on them which respond in different ways, not unlike *Draw*.

My first attempt involved creating three wire-frame cuboids and one distorted sphere (see figure 3). It is possible to merge structures, stretch them into outrageous shapes and apply colour under different lighting conditions.

As you create and edit different objects, in this case four, you begin to appreciate the hierarchical system that *Euclid* uses to move through the design process, activated by the Adjust and Select mouse buttons when pressing on the blue and yellow markers. The final sculpture was exported into *Draw* and individual sections were coloured in. Interestingly, *Euclid* exports the whole of the 3D object into *Draw*, so that when it is disassembled you can see every bit including the back, which is very interesting from a conceptual point of view.

3D modelling

Described as a 3D concept modeller, *Architech* – £169 + VAT from Aspex: (01822) 611060 – is currently the definitive package – though *Top Model* and *Architech's* successor *DaVinci* look set to re-write the standard soon; see the





Figure 2 – the design for the conservatory in *Draw* and the finished building.

Figure 5 – town planning using *Spex+*.



Graphics page for details. There are two main windows, an Edit window for the 2D design process and a View window displaying the coloured or textured 3D (rendered) model. This powerful package allows you to design and see the results simultaneously on screen.

The icing on the cake lies in options for texture mapping on to your object; basically this means a digitised texture, pattern or even freehand sprite can be loaded into the Render tools window and stretched on to selected parts or all of your creation. Lighting, strength and direction are available in the View control window. What's more, you can print, cut out and glue your design together to make a real model that you can handle.

The nets window generates each shape with the textures visible (if rendered) and even includes the folding tabs for construction. The model can even be animated and saved as an Ace format film.

Architech is supported by an excellent collection of models, textures, backgrounds and films to try out. My favourites are the film of the working lathe and an orchid with a butterfly's wing mapped on to the surfaces (figure 4).

Architech is easy to use and the comprehensive guidebook is a joy to read. Working drawings showing different elevations (Ist or 3rd angle) can also be saved as *Draw* files with four different elevations on one screen for printout. *Spex* files can also be saved which means you are able to create your very own 3D environments as long as you own a copy of *Spex+*.

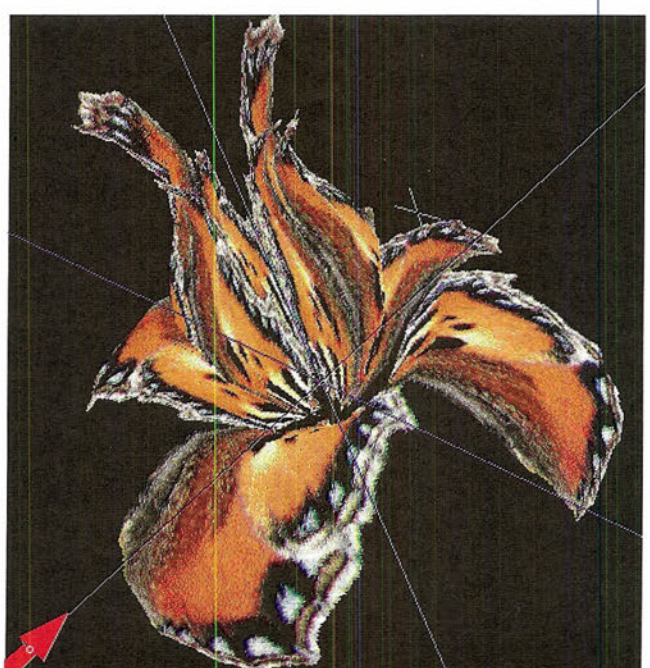


Figure 4 – the Butterfly Orchid created by *Architech*.

Environment planning

Spex+ – £34 + VAT from Aspex – is 3D environment planning software and is supplied as a single program on one disc with a second items disc containing an environment. More environments can be added and are available from Aspex including a street scene, leisure pool, home environment and moonbase. *Spex+* is easy to use and bridges the gap between a plan and a 3D visualisation.

Once *Spex+* is installed on the icon bar, the Place setup window will allow you to choose the type of place you want to design; in this case I have loaded the street scene. After entering the floor size and checking out my budget (an excellent real world feature, in this case £250,000), I began my design. The street scene environment includes houses, pavements, people, public buildings, road signs and shops. All you have to do is drag objects on to the plan and keep a check on your budget.

Objects can be rotated by placing the pointer on the plan view and pressing the Adjust button; the Menu button will display an isometric view. New items created in *Architech* can be added to the item libraries by simply dropping them into the window, and items can be shared between environments.

The isometric view (see figure 5) is the exciting bit and it is easy to toggle back to alter the plan; for example, if the bus is too close to the pavement it can be relocated. These environments can be saved in *Draw* file format and large printouts are possible.

Topographer

To finish off let's take a step into the future with *Topographer* – £68.04 + VAT from Clares: (01606) 485111. This incredible software package will turn your 2D map designs into 3D landscapes and will even perform on a 1Mb machine. Before you begin, remember to load both the map editor and 3D generator applications on to the icon bar. The first creates and edits maps so that Ordinance Survey type symbols such as roads, contour lines, buildings, antiquities, canals, coniferous woodland, and so on can be positioned as required; the map can also be saved in *Draw* file format.

Once created, an 'Export to 3D' option converts the 2D map to a 3D landscape which can be saved in sprite file format. The view of your landscape is configurable by using the view cone (area) and view arrow (direction of the line of sight). If you really want to get serious you can plot the position of a new housing estate or motorway to evaluate its impact on the local environment. This is virtual reality in the making and highly recommended.

All this is this is great concept building stuff, but is it the end? No – next month I am going to finish off by looking at the way in which image manipulation can assist in producing a whole range of new solutions for professional designers and take a peek at the emerging role of multimedia design. AU

LAST CHANCE! Offer extended for one month due to demand

Internet bargain

The Acorn User Internet Offer

Want to surf the Internet, but don't want to get involved in jargon or complicated configuring? Dying to look at the *Acorn User* web pages, but haven't got an Internet connection? Then you want our Internet pack, exclusively produced for *Acorn User* by ArgoNet, the new Internet company from the same stable as VTi and Eclipse.

Each pack contains everything you need to set up your account, and it couldn't be easier. All you need to do is plug in the modem, run the *Voyager* software pack, and that's it: there are no hidden extras. The software is programmed with your own personal password and account details, and is automatically set up to work straight away, without the need for any further action. And if there are any problems, there's a free number you can call for technical support as part of the package.

If you already own a modem, then there's a pack for you that includes the software and the connection for just £59 inc VAT. The software will enable you to post and receive e-mail, transfer files, surf the World Wide Web and more, all from a very easy-to-use interface.

How much you have to pay

The packs shown below all include your connection to the Internet. As with other services, this has to be paid for on a monthly or annual basis, but with each pack you get free registration (normally £25) and one month's free subscription to ArgoNet. After this month, the cost of subscribing to the Internet is just £12.50 + VAT per month: there's nothing else to pay except your phone bill. You can pay this monthly subscription using your credit card, or you can save £15 by paying for a whole year by credit card or cheque, at a cost of £135 + VAT.

And because ArgoNet can offer local call access to 90 per cent of the population, you can stay online every day for two hours for less than the price of a pint of beer. There are no other hidden costs, so there's never been a better time to join the Information Superhighway.

Offer 1: 28.8k solution £249 inc VAT

If you want the fastest access to the Internet possible, then you need our 28.8k solution. The modem included in this pack runs at a blistering 28,800 bits per second, the fastest speed commonly used on the Internet today. The pack, which has a RRP of over £350, contains:

- A US Robotics Sportster 28.8k modem
- Modem cable
- Pre-configured *Voyager* Internet suite
- ArgoNet registration
- One month's free access
- Pre- and post-sales support via a free 0500 number
- Courier dispatch

Offer 2: 14.4k solution £189 inc VAT

If your budget is a little more modest, then our 14.4k solution is just for you. The modem runs at 14,400 bits per second, the most common speed for Internet users, and easily fast enough even for intense World Wide Web access. The pack, which has an RRP of £300, contains:

- A US Robotics Sportster 14.4k modem
- Modem cable
- Pre-configured *Voyager* Internet suite
- ArgoNet registration
- One month's free access
- Pre- and post-sales support via a free 0500 number
- Courier dispatch

Offer 3: Software solution £59 inc VAT

If you already own a modem, then all you need to take advantage of our low-cost Internet service is the software – a full internet suite offering WWW browsing, e-mail, news file transfer – and the subscription to the ArgoNet service. This pack will work with all US Robotics modems and Hayes-compatible modems: if in doubt, ring our free 0500 pre-sales support number. The pack contains:

- Pre-configured *Voyager* Internet suite
- ArgoNet registration
- One month's free access
- Pre- and post-sales support via a free 0500 number



Note for those with pre-A5000 machines

If you own an A300, A400, A3000 or A540 machine, then you have a slower serial port than in later machines, so you may experience problems running your modem above 9600 bits per second. As a result, if you have an older machine, you may not be able to get the best out of the modems on offer. With any pre-Risc PC machine the 28.8k modem will not run at its fastest speed.

However, if you purchase a fast serial port card – which we can supply for just £79 inc VAT – then you can run your modem faster with no problems. And, of course, a faster modem will save you money on your phone bill...

To order your fast serial port card, just tick the box on the order form.

For more information, call free on 0500 585 586

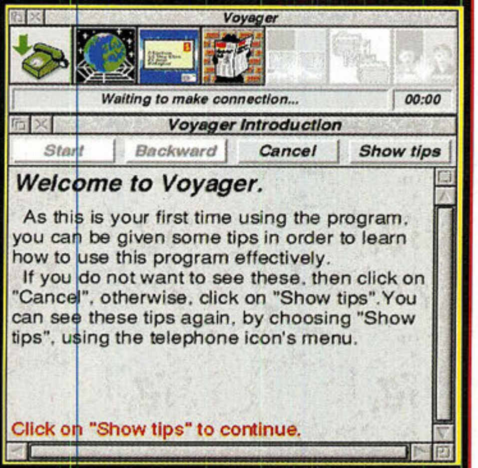
Reader offer

Argo NET

The Voyager Internet suite

The *Voyager* software provided with your ArgoNet connection is tailored to be incredibly easy to use. When you receive the pack, it will be pre-configured to include all the details of your account such as your password, as well as the best and cheapest number for you to call to access the Internet. It couldn't be easier, and no-one else provides such a simple service for Internet connection.

The *Voyager* suite seamlessly combines electronic mail, news reading, web browsing, file transfer and more, and integrates these functions so clicking on a web address in a newsgroup will automatically access that web site, without any more effort on your part. It really is that easy to use.



Other important aspects of the pack include: graphical ftp file transfer using icons and automatic log-on; full news and mail reader with editing, quoting, an address book and so on; web browser with support for virtually all Netscape extensions, hot lists, caching, sound, graphics, text and more; automatic log-on scripts for telnet; and security features to prevent access to certain areas of the net, so you can stop your kids surfing areas they shouldn't.

The *Voyager* pack is the most cost-effective Internet pack available, allowing simple access to all Internet facilities.

The ArgoNet service

When you subscribe to ArgoNet, you get a unique e-mail address – like mmoxon@argonet.co.uk – and access to full e-mail, news, web and file transfer facilities, all at a local call rate for 90 per cent of the population. All network links are provided by the well-known company Unipalm Pipex, guaranteeing quality network connections to the Internet in Europe and the United States, and ensuring that there aren't too many users for the modems available, so you don't have to wait ages for a free line (and that's guaranteed).

The ArgoNet service is complete: it gives you access to the full Internet, all without extra charges as there are with Compuserve. Argo Online runs its modem lines at 28.8k, and the technical support provided by ArgoNet is not only excellent, it's totally free. Best of all, as ArgoNet is a sister company to VTi, technical support for Acorn users will be the best in the country, so even if you have problems, there will be someone to help.

ArgoNet will also have its own World Wide Web site, with all the latest news from ArgoNet, VTi and Eclipse, as well as other areas of interest for Acorn users, both home and educational. Its ftp (file transfer) site will contain lots of Acorn-related files, and the news server will give access to well over 10,000 different newsgroups worldwide, including all the Acorn groups like comp.sys.acorn.misc.

The ArgoNet service: it's the best Internet service Acorn users can buy.

Please fill in all sections.

Section 1: Personal details

Name: ______

Address: ______

______

______

Post code: ______

Daytime tel no: ______

Section 2: Machine details

Machine: ______

Memory: ______

Modem (if applicable): ______

Section 3: Order details

Please send me __ 28.8k packs @ £249 each

Please send me __ 14.4k packs @ £189 each

Please send me __ Software packs @ £59 each

Please send me __ Fast serial cards @ £79 each

Total cost: ______

☐ I enclose a cheque/postal order, made payable to 'AU Internet offer', for the above amount.

☐ Please charge my credit card, details of which are in Section 5.

Section 4: e-mail address

We need to allocate you an e-mail name, but to make sure yours is unique, we need three different names from which we will pick one. Please give three names, in order of preference, so for the name 'Mark Moxon' you could choose 'mark.moxon', 'markm' or 'moxy', for example.

Name 1: ______

Name 2: ______

Name 3: ______

Section 5: Subscription payment details

☐ **Option 1**: I would like to pay monthly by credit card (£12.50 + VAT per month)

☐ **Option 2**: I would like to pay annually in advance and save £15 (£158.63 inc VAT).

☐ I enclose a cheque for my pack plus my annual subscription.

☐ Here are my credit card details (Access, Visa or Amex) – please charge me as appropriate.

Card number: Expiry date: __ /__

______

☐ I agree to allow my credit card to be debited monthly in advance after my first month's free access at a rate of £12.50 + VAT per month. I understand that I can give one month's notice to cancel my subscription at any time. ArgoNet will notify me at least one month in advance of any price changes.

☐ I have paid £135 + VAT (£158.63 inc) for a year's access in advance.

I understand that ArgoNet will provide an ongoing Internet connection with private e-mail address and free updates to the *Voyager* access package as they become available, and that ArgoNet will endeavour to the best of its ability to ensure that all services are available 24 hours a day, 365 days a year and will, wherever possible, notify users in advance of changes to service.

Signed: ______

Date: __ /__

E&OE. Please send this order form and payment to: Acorn User Internet Offer, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP. Please allow 28 days for delivery and account set-up. Offer closes 31 December 1995.

☐ Tick here if you do not want to receive promotional material from other companies.

Letters

The name game

To computer users everywhere; this is an important announcement.

There has been wide speculation on why Sam Wauchope stepped down as MD of Acorn. I believe I have the answer. You only have to look at the new MD's name – David.

Yes, they have been gathering their forces for years, and they are almost ready to strike. The fact that they could replace the MD of Acorn itself with one of their own shows the power they wield. They are wiping us out one by one, and they already hold many key strategic positions. Beware of: David Lee, Dave Acton, Dave Lawrence, Dave Walker, David Matthewman, David Dade, David Wren and David Watkins.

They are everywhere, working their way into influential positions. They now occupy the top posts in *Acorn User* and Acorn itself. If we don't act now, we shall all be doomed. We must rise up, and overthrow the tyranny of the Daves.

Arise all you of interesting names, and unite. We *must* overthrow the Daves before the world falls under their evil spell.

Phil Norman
(self-confessed student)
Exeter

Curses! And our plane would have worked, too, if it hadn't been for those pesky students... (DM)



The Big Ben Acorn user's group who travelled over from Holland to be at Acorn World – they enjoyed it, did you?

RISC OS 2 users

When *Acorn Computing* was discontinued I moved over to *Acorn User* and was impressed by the magazine's format.

However, I was not prepared for the number of items on the cover disc which all claimed to require RISC OS 3.1 or higher. I don't want to stand in the way of progress, and programs that require upgrades are all well and good, but being by nature an experimenter I try to modify them to run on RISC OS 2.

It is surprising how many programs will run after changing just one line in the main BASIC file; I suspect that similar tricks are possible with machine code, although I personally cannot use them.

This seems unfair to those people who lack the knowledge to experiment in this way. Is it not possible for someone at *Acorn User* to check whether RISC OS 3.1 requirements are necessary, or are simply included as a 'standard disclaimer' by the programmer?

R J Waters
Spalding

We do try to test software here at *Acorn User*; there's a 1Mb, RISC OS 2, ARM 3 A310 sitting in the labs for just this purpose. If it's clear why a program isn't working we will modify it if possible, but sometimes we simply can't work out why a program won't run while having a sneaking suspicion that it's obvious really.

Sometimes the program will fail to run because of memory restrictions on the 1Mb machine – in this case it can be hard to tell if it would have run in a machine with more memory.

We do try to ensure that as much of the disc as possible does work on RISC OS 2, as we realise that there are still some of machines out there that haven't been upgraded. Mind you, our last survey suggested that the proportion was less than 2% – fewer than still had RISC OS 3.00 – but we're taking that result with a pinch of salt. (DM)

Show disappointment

Well I thought that this years show was a bit bland. Help from Acorn though was first class. The Cyber Café's network links were so slow that it turned the World Wide Web from the brilliant place it is, into a bore.

My children thought that it was the worst Acorn Show ever and we have been coming for three years now. No games arcade and the Disney film show was a total waste of space.

Stands that had games to play were not policing the teenagers from pushing in front of, or pushing off, the smaller children.

Hope next will be better, or it will be our last.

Don Jacobs
via the Internet

See Viewpoint.

ARM710 performance table (corrected)

Operation	ARM710 time (s)	ARM610 time (s)	%performance increase
Loading 170K JPEG into FYEO2	7.88	9.81	19.7
Loading 170K GIF into FYEO2	1.81	2.01	10.0
Redraw of ArtWorks CanonEOS picture	10	13	23
Loading etc Fireworkz Pro file	11	14	21
Query on 1000-record Squirrel file	2	3	33
Publisher page redraw	5	8	38
Mean			24

Robust computers

As IT coordinator of a secondary school I have, over the years, gained some experience at fixing computers, but I was faced with the ultimate challenge when a teacher brought me his A3000 and asked 'can you do anything

with this?' He had taken the computer home for the weekend, put it down next to his car while he loaded the boot, forgotten about it and driven over it.

It looked rather battered and had developed a rattle or two on tipping. The case had lost one of its clips at the rear and was split at each side, but otherwise it didn't look too bad. Inside casualties were:

- one keyboard – bent in the middle and unplugged.
- two speakers, now U-shaped.
- one disc drive, apparently squashed with a few bits loose and a missing eject button.
- the RISC OS chips – two dislodged and one loose inside, all with mangled pins.
- memory expansion – an Atomwide board with two missing RAM chips sitting at a very odd angle.
- central case pillar snapped off.
- keyboard case pillars – two missing and the others bent.

Surprisingly, neither the main circuit board nor the power supply seemed to be damaged apart from a few bent pins.

I went to work with two pairs of pliers, a screwdriver and a little brute force. The speakers were straightened out, the pins on the chips and the circuit board likewise while the disc drive was removed. Underneath was a totally smashed reset switch – oh well, there's still a working on/off switch.

Once the cover of the disc drive was removed it didn't look too bad either – a bent cover and bent mounting brackets, both of which responded to persuasion with the pliers. It also had a snapped drive slot cover and eject button, neither absolutely essential.

The keyboard I straightened by gently bending it over my knee. Back in place went the OS chips and in went the missing RAM chips which had been found after a search of the car park.

Time to power it up, but not until the pins in the mains plug had been straightened; he'd run over that, too. A familiar beep (rather quieter than before), the red and blue memory-checking screens completed and we were at the 'initialising' message followed by the Desktop. Pressing F12 allowed me to test all the keys – all working perfectly. In went an (old) disc which verified, loaded perfectly and would write a file.

Congratulations Acorn (and Atomwide), your products survived what must be the ultimate in destruction tests. However, had the central case pillar been made a little thicker then the A3000 would have been totally ZX-proof (Citroen, that is).

John Chapman
Norton

I'm a bit cautious about printing this story, for fear of sparking off a rash of 'I dropped my computer into the core of a nuclear reactor and all it did was set the system clock back five seconds'-style letters. (DM)

Calculation error

I was amazed by the article on page 51 of the December issue of *Acorn User* where statistics were presented in support of Acorn's claims that the ARM710 is approximately 34 per cent faster that the ARM610. In short, your sums appear to be wrong.

Your figure of 60 per cent for the speed increase on the page redraw in *Impression Publisher* seems to have been calculated by comparing the three second increase in speed with the five seconds redraw time of the ARM710.

In effect you are saying that the ARM710 is 60 per cent faster than itself, which is a bizarre statement to say the least. The percentage should be 37.5 per cent for this operation.

S Antczak
Surrey

You're quite right of course, and we didn't even use a Pentium to work out the results. A couple of other people spotted this as well. The corrected table appears here. It does make the card look less impressive than Acorn's initial predictions. (DM)

Viewpoint

Acorn World was a show full of promise. Well, promises, anyway. Beebug promised to have *Ovation Pro* finished in the very near future; similar promises were made regarding the *Ant Internet Suite, Global Effect*, Irlam's MJPEG card, *Studio 24 Pro, TopModel, Sibelius* release 3 – this list could go on. Peter Bondar from ART was certainly very free with promises about what was possible with multi-processor cards and StrongARM chips; if he's right that by this time next year there'll be some very fast machines around.

Acorn users are used to taking all of this with a pinch of salt, and quite rightly, too. Software companies seem to operate on a totally different time scale to the rest of us, at least as far as predicted release dates go. After all, *Ovation Pro* was on display at *last* year's show, too.

There were some notable releases – *Alone in the Dark* was there and on sale, as were *The Big Picture, EasyClip*, the new faster Aleph One PC cards and the *Mechanisms* CD-ROM. A number of products which had been released in the last few months were on display to the general public for the first time – it's hard for us on the magazine to get too enthusiastic about Cumana's proTeus drive (which we've had our hands on for a couple of months now) but it attracted a lot of interest at the show.

It was both heartening and worrying to see the same old faces at Acorn World. It's always nice to meet loyal readers and to continue conversations which were temporarily suspended a year ago, but it's worrying that for the first year there was a lack of new faces. I don't really enjoy explaining for the nth time that 'no, it doesn't have a 386 or a 486, it has a 610' (always confuses them, that one) but when I do it at least I feel that people are entering the Acorn market from outside. There wasn't much evidence of that this year.

In fact, the reverse was true. Some of the biggest crowds at the show were clustered round the Computer Concepts stands watching demonstrations of *Corel Xara* on the PC. People were impressed with the program, as I was, though the conclusion (that if you program a 486 *properly* it actually runs at least as fast as an ARM610) wasn't one most people wanted to hear.

It was remarkable how many products at the show had some connection with Intel-based machines but it perhaps wasn't surprising. The trend these days is increasingly towards mixing platforms together, often in one machine, so applications like *PC Exchange* and hardware like the ISAdaptor are really signs of the times.

The Cyber Café was a bit of disappointment, largely because people have been given unreasonable expectations of how quickly the Internet runs by TV programmes which always have 'tweaked' displays. Even down a dedicated line, Web browsing can be rather slow if there are 20 of you trying to do it at once.

It was a big mistake not to have a games arcade – it's the best and most direct way to show off the power of the Acorn to kids of all ages, and a big relief to parents with easily-bored offspring in tow. *Pocahontas* was all very well as an attraction, although anyone with a stand nearby had good cause to complain about the noise. However, *Pocahontas* has a fairly limited appeal with no relevance whatever to Acorn Computers. Thankfully TBA Software had a small-scale arcade with an impressive black cover and a smoke machine where its games could be tried out – other games companies take note.

The enthusiasm evident at shows is always welcome. You have no idea what a morale boost it is for us to meet crowds of people who clearly both read and enjoy the magazine. Even criticism shows that readers are paying attention. To everyone who dropped in at the *Acorn User* stand and said hello to me, Mike Cook or any of the other editors: thanks, and I'll see you again next year.

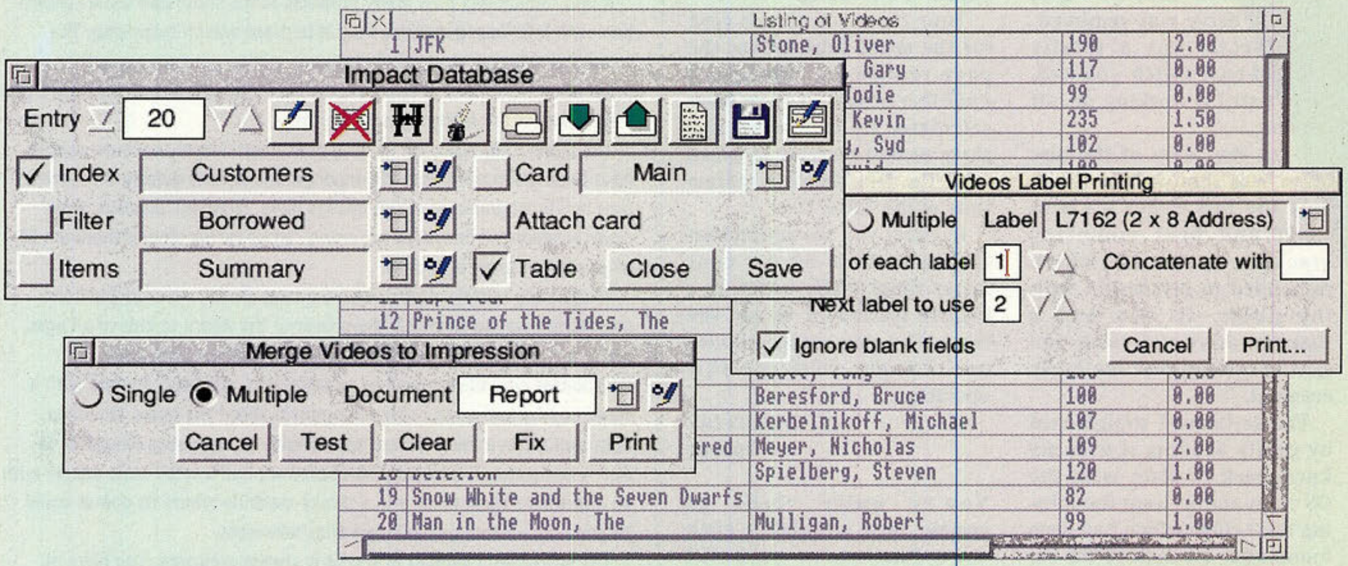
David Matthewman



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GAME SHOW

Well, it's nearing Christmas and another Wembley exhibition has passed us by, so how do things stand in the big wide world of Acorn games? There were a rash of new releases from various companies at Acorn World, and I've been promised a clutch of fresh titles just round the corner. One was brought to my attention whilst I was browsing the comp.sys.acorn.games newsgroup, and Peter Ottermann has been good enough to talk to me about the game he's been working on for over a year.

Proposal

Peter is currently working on what might be described as a space epic – a four-part game involving the disruption of the evil Rebel forces currently trying to overthrow the goodly Solar Federation. To squeeze the plot into a nutshell, the President of the Federation has hatched an idea to destroy the Rebels by sending in a lone soldier on a sabotage mission.

Of course, it wouldn't be a space epic unless you played the part of the psychotic nut who volunteers, and that's where you find yourself at the start of the game. In order to wreak your intended havoc, you need to find the self-destruct keycards capable of reducing the Rebel-occupied starbases into so much twisted steel, and this involves searching the solar system until you do.

Peter has divided up the gameplay into four main sections, consisting of an *Elite*-style simulator which allows you to visit most of the planets in the solar system, as well as find yourself being shot at by all and sundry. Space stations are dotted about, and *Proposal's* second part allows you to communicate with other pilots and uncover information leading to the locations of the keycards.

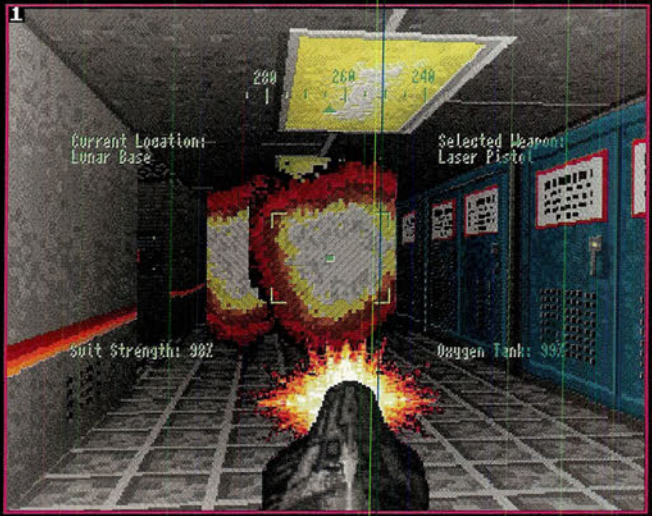
Thirdly, it's possible to land on some of the planets and their moons, and if you do, you'll find yourself enjoying a bit of *Wolfenstein*-style gameplay as you wander about on the surface. Once you discover an entrance to one of the Rebel bases, the final section consists of running round the corridors until you find the self-destruct mechanism.

Peter hopes to finish *Proposal* in time for spring next year, and he's writing the code so that it will play at the same rate on any Acorn, with an extra detail setting for the faster machines. Apparently, it's a little hard to find many Acorn machines suitable for testing – Peter's living in Stellenbosch in South Africa...



Throw explosive potions at each other in Intertek's *Sorcery*.

1



Wolfenstein-style gameplay as you run through the Rebel bases in *Proposal*.

Problem corner

I've had a request from Gary Hughes in the Republic of Nauru relating to an Acornsoft game by the name of *Labyrinth*. He's having problems resisting the urge to throw his BBC Master out of the window, and he's looking for a cheat to ease his troubled soul. Can anyone out there lend a hand? If so, please let me know and I'll pass the information on to Gary, who describes himself as the only Acorn user in Nauru.

Forthcoming attractions

As usual, a couple of games didn't make it in time for this month's Game Show, so next month I'm hoping to take a look at TBA's latest games including *Cobalt Seed*.

You might be aware that this makes use of the sophisticated TAG graphics system – I've been told that the second-generation TAG2 engine is on the way, so I'll try to dig up a few bits of information for you.

Also reviewed next month will be Generation Design's *The Last Cybermoch* and the Hitmen's *Rick Dangerous*.

I've just received Graham Nelson's latest text adventure, *Jigsaw*, which takes the player through a whole host of time zones as a string of complex puzzles unwinds. It's wonderfully crafted and since Graham's releasing it free of charge, I'd advise any fans of interactive fiction to search it out – it's an absolute gem.

Intertek, the team behind *Aggressor* and *Blood Sport*, has sent me a demonstration of a future game called *Sorcery*. It's along the lines of *Dynablaster*, and allows up to four players to blow themselves to kingdom come while trying to decide who's the mage with the most. You can write to Intertek at 7A Lovat Close, Neasden, London NW2 7RU.

Finally, I'm proud to announce that I, too, have a new e-mail address on the Argonet internet server. If you'd like to drop me a line, you can contact me at azimuth@argonet.co.uk or by post at Game Show, Acorn User, IDG Media, Media House, Adlington Park, Macclesfield, SK10 4NP. See you next month.

Steve Mumford

NOT *One* BUT *Two* NEW RELEASES FROM THE FOURTH DIMENSION

SPOBBLEOID FANTASY



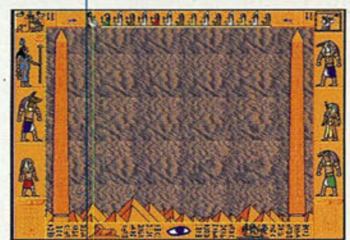

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(Spobbleoid) This is a good game. It's certainly addictive. I'm impressed and look forward to the next offering.
Steve Atherton, Acorn User. November '94.

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STEREOWORLD has been converted to run on Acorn machines by **The Fourth Dimension.**
© Impact Software. PRICE £29.95.
Non RISC PC Version may not include all above features.





All in all it is an amusing package that enables you to cross your eyes in the privacy of your own home rather than outside a shop.
Rating: 78% PC Answers, April 1995.

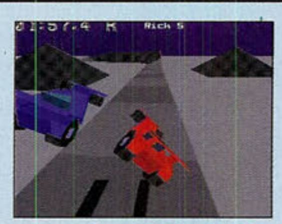
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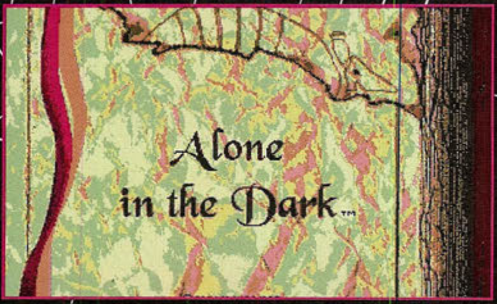
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VISA



Alone in the Dark

Supplier: Krisalis
Tel: (01709) 372290
Price: £34.99 inc VAT

Are you hard to scare? Do Lovecraft's Cthulu horrors leave you unmoved? Do you mind being alone in the dark? You see, in this long-awaited PC conversion you're on your own but not alone.

Playing either Edward Carnby or Emily Hartwood you find yourself travelling to Derceto Mansion the home of the late Jeremy Hartwood. Edward is a private eye sent to check on the contents on the house by a local antiques dealer.

You're hired because Jeremy committed suicide and if you read *The Mistery Examiner* which comes in the packaging you'll soon discover that all is not as it seems.

Emily is concerned about her uncle's death and has always been afraid of Derceto. However, money and curiosity overcome both their fears and whichever character you choose you arrive in the attic of the dilapidated old house. And in true horror movie-style it is dark and a storm is gathering.

To say this game is atmospheric is an understatement. The sound effects are beautifully added such as when the click clack of Emily's heels on the wood floor are then muffled by the threadbare rug.

The game's appeal on the PC is provided by the 3D figures and realistic movement. This does get some getting used to using as you try to control your character with the arrow keys, but with a bit of practice you can soon spin around on one heel and run across rooms. The problem is that you don't have a lot of time before you are torn to bits – complete with screams and gore – by a creature of the night jumping through the attic window.

As you move, the camera angles change giving a different perspective of the room and access to other objects. Sometimes you even see the action from the eyes of the hell-hound about to rip you limb from limb. The only real thing that irritated me was the fact that if you run into a chair or stool it becomes stuck to your leg until you manage to shake it off.

You know that you have to search the piano, but do block the window and trapdoor first. When a grobbly is about to appear a crashing chord will sound; close the door, get out of there or arm yourself. The monsters are blocky and not very detailed but they are in 3D, deadly and some even quite intelligent.

So within five minutes you're not trying to find out anything but just to get out of there – alive. There are different ways to die; holes to fall through, monsters to be eaten by and the like. If you're lucky you'll find the old sabre. If you're very lucky it won't snap and you'll find arrows for the bow and bullets for the gun. Personally I was tempted to burn the whole place down – I had the oil but no matches or lighter.

Do shut doors behind you and remember to save frequently. Also you'll find some respite by jumping into the options screen where you can choose to search, fight, close doors or use objects.

Read the books and papers you come across too as some of the trinkets you'll find will only then make sense – unless your classic mythology is up to scratch.

Quite a way into the game I found that I didn't have to fight everything – just as well as my hit points were in single figures and the first aid kit was empty.

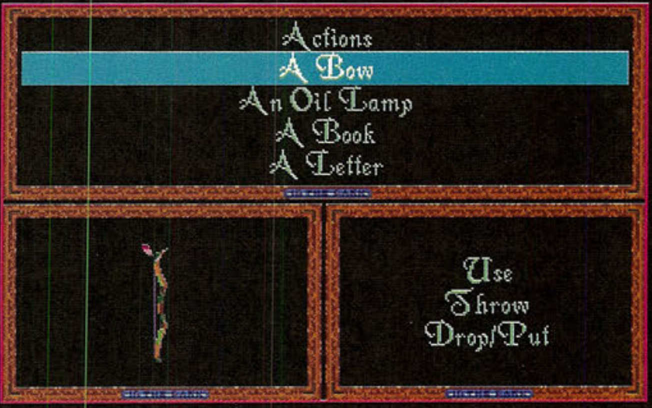
The tension mounts as the game continues and you really do feel alone and vulnerable. Suspense is there in tooth and claw and the fear of the next creature is more frightening than the real thing – horror at its best. But this is an adventure not a beat-'em-up and you can succeed using your little grey cells. Collecting items to use with others, breaking vases to find keys, it's all there.

I wish the movement – especially the fighting – were a little more intuitive and that the camera angles didn't jump quite so much which can be disorientating until you get used to it.

However, the overall effect is one of breathless panic. I like to play *Alone in the Dark* in short spurts as my adrenalin can't stand that much exercise at one continuous-sitting.

Definitely recommended.

Pam Turnbull



Do I hit it with the bow or the oil lamp?



Shush, it hasn't seen me yet...



Compete against up to six other people in *Tron*.

Steve Mumford looks at the best PD games available on a budget.

Cheap thrills

If you're looking for a new game to add to your collection without splashing out on one of the current full-price releases, there's a wide range of decent, cheap PD software available if you know where to look. Over the next couple of pages, I've given a brief summary of some of the products around at the moment.

Tron's Revenge

Several years ago there was a style of game that was quite popular, based on the lightcycle scene in the science fiction film *Tron*. If you've not seen something like it, the idea was to race round the screen and survive longer than your opponent by avoiding the deadly light trails that you both left behind. An enhanced version of this classic has been written by Guido Steiner and Peter Münch, and you can now pit your wits against up to five other players.

As well as the 'original', you can play a game in which the arena is scattered with obstacles and bonus objects. Pick up the credits that appear sporadically, and you're able to cross over another trail. Find the key-swapping icon, and you can watch as your opponents lose all control and veer off into a wall. There's even an icon that creates an electric storm in the immediate vicinity – especially useful if you've got a fellow racer right on your tail. *Tron* is one of those games that looks simple but hides a great deal of playability – although getting six people round one keyboard for any length of time could be tricky.

The Pits of Angband

If you've seen *Doom* once too often and you're disillusioned with creeping through 3D passageways coated with texture-mapped slime, you might care to take a look at one of its predecessors. *Angband* is a text-based dungeon role-playing game in which you have to work your way through networks of caverns, fighting all manner of monsters both animal and human. The aim is to gain experience, learn new spells and of course, rake together a large pile of cash in the process.

Due to its heritage, *Angband* displays everything as text, from the lists of equipment at the local armoury to the monsters that spring out at you in the dungeons, so if you've never been attacked by a lower-case 'c' before, here's your opportunity. The use of text as graphics might sound a little damaging to the gameplay, but believe it or not each type of monster has its own recognisable character. It doesn't take long to learn that the wizards who wander the later levels are somewhat more harmful that the metallic blue centipedes that potter about near the surface. The version I'm playing, ported by Kevin Bracey, runs in the Desktop

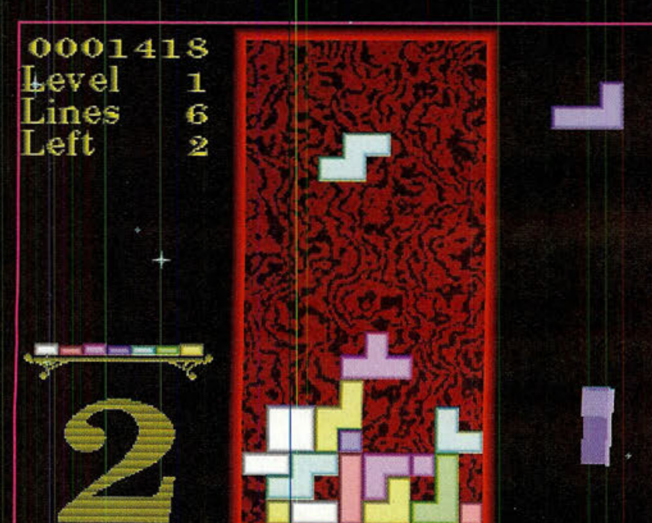


Who needs complex texture mapping for a decent maze game?

and displays the text in various colours to make things a little easier to follow.

There are two main parts to the game – as well as battling against the denizens of the Pits of Angband, you can ascend to ground level to replenish your stocks and haggle with the shopkeepers to sell the various trinkets you've picked up. After scraping together a few bags of gold from scavenging the labyrinths, you'll be able to afford such things as magical armour or more powerful weapons.

Your ultimate quest is to find and eliminate a mage



Slick presentation marks *Tertis* out from its competitors.



Slide the blocks to cover the crosses – not so easy



Two-player *Bloxed* – a great way to lose friends.

named Morgoth, and the adventurer who wishes to face him must be prepared for a tough battle. *Angband* will be familiar to those who have already spent some time on role-playing games, and it boasts a wide range of features to keep players interested. It might not be everybody's cup of tea, but for some reason I enjoyed the simple nature of the presentation – perhaps I've been spending too long playing 3D games recently.

I downloaded *Angband* over the Internet by anonymous ftp from the server at the University of Stuttgart. There's a wealth of material there, so if you have access to the Net, it's well worth logging on to see what they've got – ftp to ftp.uni-stuttgart.de and log on with the user name anonymous.

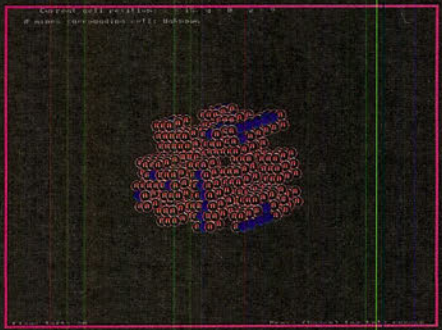
From there, it's just a matter of navigating your way through the maze of directories until you get to the Acorn archive – for instance, the *Angband* executables are stored in the directory *pub/systems /acorn /riscos/games/angband*. Two points of advice – it's normally better to try to connect during the evening or at the weekend, and it's advisable to check your ftp software is downloading in Binary mode.

Anyone for Tetris?

This column wouldn't be complete without giving *that game* a mention, and I've been taking a look at a couple of variants. The first, *Tertis*, was written by the programming team Sick some time ago, but it still remains a firm favourite. One-player only, it contains many of the ideas of the original and plays smoothly.

To complete each level you must fill a certain number of lines, and later in the game you start each screen with a few blocks carefully dumped in the bucket in order to cause maximum disruption. The controls respond well and are redefinable, and if you want a little more excitement you can spice up the graphical effects – the screen wobble that accompanies the completion of a line is particularly good at inducing motion sickness.

Currently, my favourite Tetris clone is *Bloxed*, written by Steven Singer. Come to think of it, calling it a clone is a little unfair since it parades a substantial number of additions including a particularly competitive two-player mode and several interesting bonus blocks.



Minesweeping in three dimensions.

If you're skilful enough to fill a line containing a token, you might well find an object such as a bomb or a laser falling from the sky – with careful application of either leading to the disappearance of much of the population in your bucket.

If you can afford to lose one or two friends, the simultaneous two-player mode is great fun – you both play as normal, but if one of you happens to complete more than one line at once, they're removed from your side and shoved into the opponent's playing area. *Bloxed* isn't perhaps as graphically impressive as *Tertis*, but the addition of the extra functions adds a lot to the gameplay. If you've not seen it yet, it's well worth a look; it was on the *Acorn User* CD-ROM in April 95.

Pushy puzzles

You might be familiar with a puzzle game that involves manoeuvring crates over target squares in order to complete the level – there seem to be a lot of variations about at the moment, but one that caught my eye is a game called *Pushy*. It's presented in a colourful arcade style, and there are 25 levels to tackle as you guide your charge through each maze.

It's easy to become stuck by pushing one crate up against another and some thought is required it you don't want to get trapped in a corner. *Pushy* is a gentle, relaxing game just right for unwinding after a hard day's work – or indeed, a productive alien-bashing session.

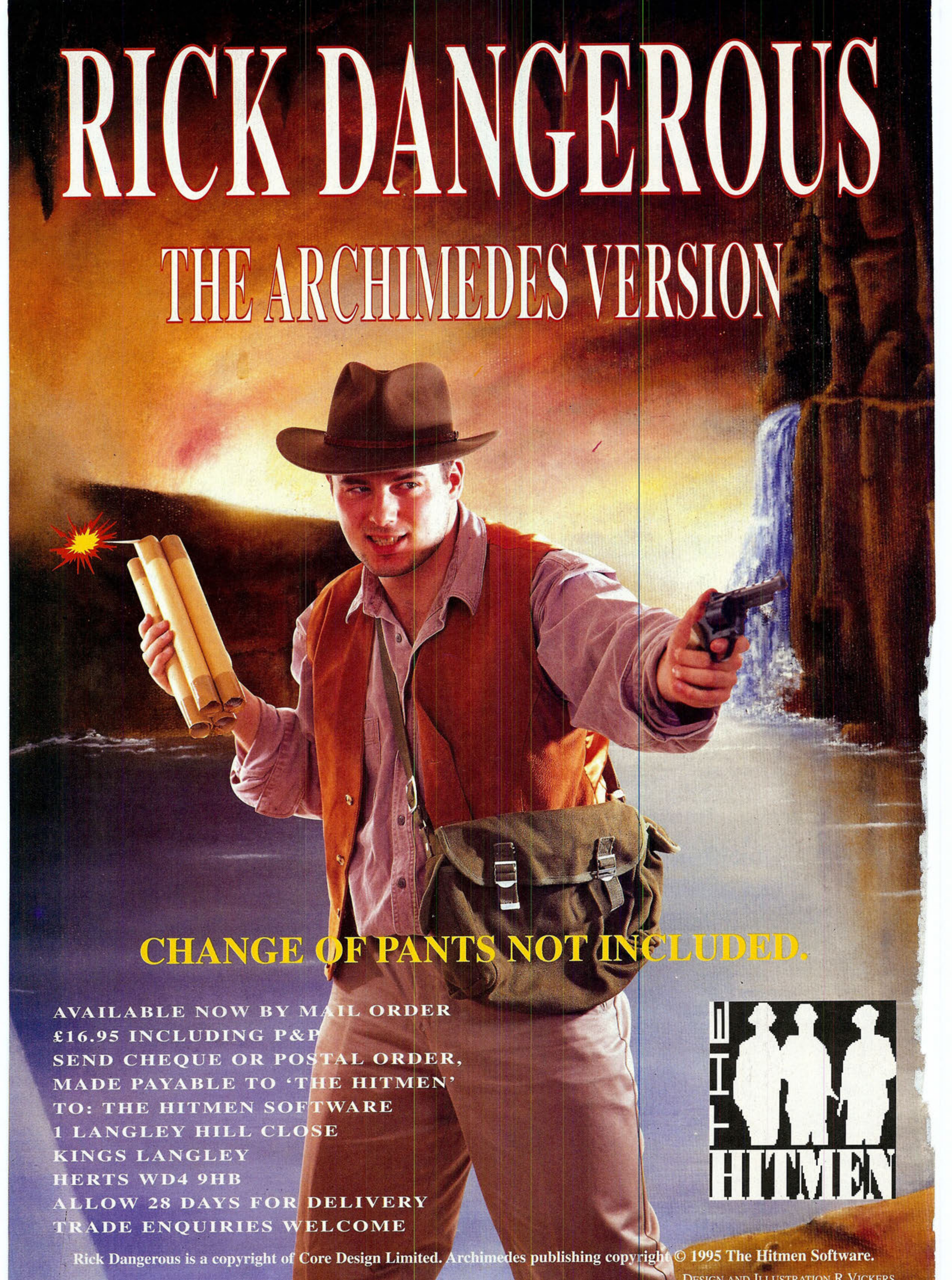
Staying with the puzzle theme, if your version of *Minesweeper* is looking a little dated, there are some variations on the game that might interest you – *3DMine*, *Crazymine* and *Storm-Sweeper*, all written by Andrew Garrard. The first allows you to pit your wits against a 3D minefield which you can examine by using a combination of the keyboard and mouse. The graphics aren't particularly flashy, but it's definitely challenging – if you consider yourself to be a *Minesweeper* expert, this game's for you.

Crazymine produces a crazy-paved minefield tiled with irregular shapes, so the number of neighbours each cell shares can vary wildly. It's slightly easier to get to grips with than the 3D version, but the time taken to create large grids can be somewhat prohibitive. Luckily, the game comes supplied with a 64-cell precalculated grid – large enough for my tastes.

Finally, *Stormsweeper* provides a new twist. The gameplay is similar to the original but after a certain time has elapsed, a storm hits the minefield and any remaining mines shift their positions. Once it subsides, you have to start where you left off, with the disadvantage of having to guess where they've all moved. This version's a real race against time – the longer you take, the more likely you're going to plough into a mine.

Product availability

The games mentioned in this column have been culled from several sources, including the Risc Disc II CD-ROM distributed by Uniqueway and discs from The Datafile PD library; many thanks to those companies for their help. Uniqueway can be contacted on (01222) 644611 and The Datafile on (01934) 823005.



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DESIGN AND ILLUSTRATION R. VICKERS

Darkwood



This is the entrance to the Abbey – I'd steer clear of the monks, though. They're not particularly friendly.

Supplier: Eclipse
Tel: (01243) 531194
Fax: (01243) 531196
E-mail: eclipse@argonet.co.uk
Price: £24.99 inc VAT



A tribute to Imogen – close the gate when someone's beneath it and, well, it makes a mess.

What do you get if you cross a fake papier-mâché cat, a handful of irate deities, a florist with hayfever and an apprentice wizard? Frankly, I wouldn't like to comment, but it might just bear a passing resemblance to Tom Cooper's new title.

Darkwood is a graphical adventure game at heart, but if you're expecting something with a 2D point-and-click interface, prepare to be surprised. The entire game is rendered in 3D, from the cosy interior of Ackleburt's bijou cottage to the foreboding cells in the castle's dungeon. Outside the buildings, you're free to walk wherever you choose, and the landscape rotates beneath you as you turn.

The story opens with Ackleburt the wizard preparing for a quest to rid Ecklespit village of a nefarious curse, bestowed by the gods when the high priest blundered their annual sacrifice. At the outset you'll have no idea of how to go about your task, but a few conversations with the locals dotted about will set you on the right tracks.



Ackleburt's face to face with the head monk himself.



3D Zarch-style landscapes.

The talking mechanism is similar to that of *Simon the Sorcerer* – suitable phrases are presented at the bottom of the screen and a click of the mouse will select one.

From then on, it's a matter of collecting the correct objects and using them in the right place at the right time. Two other characters join you later on in the game, and certain puzzles are impossible to complete unless you get them to act as a team.

Darkwood's plot is perhaps a little simple when compared to some of its 2D brethren; you won't find a high proportion of brain-bendingly difficult puzzles within, but you might be interested to hear that there's a large number of sentient skeletons with which to do battle – Ackleburt does a nice line in fireballs and the archer has a plentiful supply of arrows.

The jester's jokes are particularly bad, but unfortunately they don't seem to harm your assailants. It goes without saying that the action of despatching an adversary makes quite a mess, and if you've seen Tom's earlier game, *Hamsters*, you'll already have the general idea. Fans of the BBC classic *Imogen* might like to take a quick stroll down to the lower recesses of the castle – there's a contraption there reminiscent of the *Hamster Jam* level.

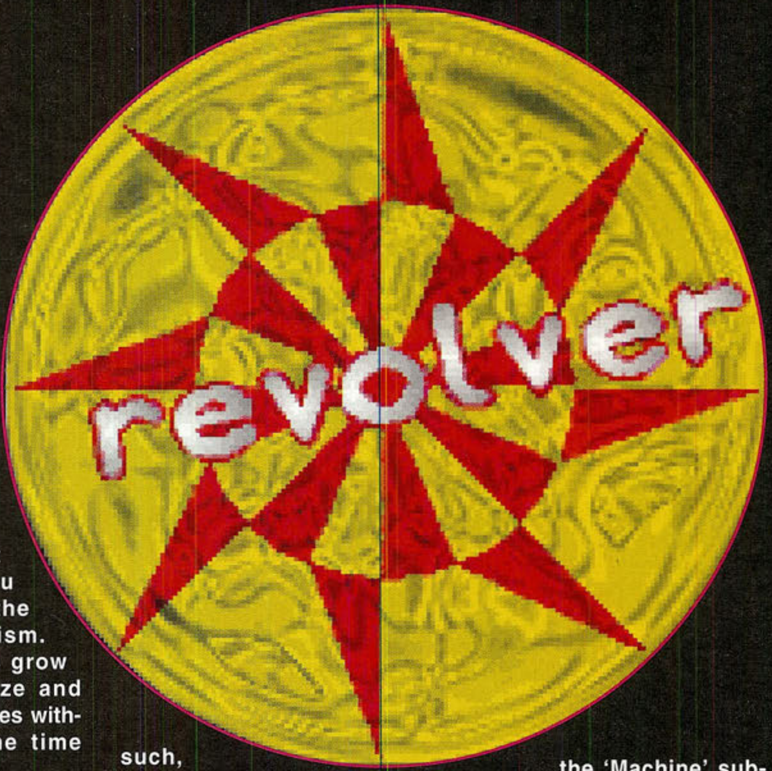
Darkwood's graphics engine is the most noteworthy feature of the game – all the action takes place in three dimensions, whether your character is wandering up a steep hill to gather some rare berries or sneaking through the depths of the local dwarf mine. If you're outside, you see the landscape around your character as a *Zarch*-style polygon projection – objects such as bridges, buildings or trees are added on top.

To control Ackleburt in the outside world, it's a matter of turning him to the direction you want to go, rather than heading in one of the four standard compass bearings. This allows a greater degree of flexibility, but it takes a few minutes to become accustomed to the movement. Inside, the view changes to one that's a little more conventional. Each room is presented to you as a view from above, and you control the character by the four standard direction keys.

I should perhaps point out that *Darkwood* needs a fairly high-specification machine to run smoothly; those of you who don't possess a hard drive face the unenviable prospect of a heavy disc-swapping session whenever you change location – I really wouldn't recommend this unless you've got an industrial-strength disc drive and the patience of a team of saints. Having said that, if you've got 4Mb or more of memory, it's possible to install the game to a RAM disc. On the less serious side, the graphics require a meaty processor to show them off to full effect, but the levels of detail can be altered to provide a reasonable update on slower machines.

I was particularly impressed when I saw *Darkwood* – Tom's come up with an original idea and has implemented it well, proving that the Acorn games market doesn't have to rely on conversions to keep it going. This game's got tremendous potential and if Tom continues to develop it, we might be looking at a title that could cause a splash on certain other platforms I could mention. Keep up the good work, Berty!

Steve Mumford



Supplier: Psycore
Address: PO Box 3837, London NW3 1JF
Price: £14.95 inc VAT

Anyone familiar with Psycore's earlier games will immediately recognise the style of *Revolver*, with bright colours and warped graphics splashed about the screen. However, this game differs from their other titles such as *Big Bang* in that it's more abstract – you won't find any cute characters wandering about here, just odd patterns and geometric shapes.

It's also a departure from the usual platform game style, and instead of anything as mundane as a 2D view of the playing area, it takes the map of the level and wraps it onto a sphere placed on a scrolling star field. If you've ever dreamt that you were a one-eyed fish trapped in a maze, it's possible that you might have had the same sort of experience.

The aim of the game is to complete each level by collecting all the tokens scattered about. Once you've succeeded, a gate is unlocked and if you're able to return to that within the set time limit, you can move on to the next world.

However, it's not as easy as it sounds because the only control you have on the character, something which looks like a spiky Catherine wheel, is the ability to twist the world around it. Using gravity to assist progress, you have to bounce off the walls and synchronise turns carefully to roll over the all-important tokens.

Each gives an extra second of time for the task, which is somewhat of a relief because there are plenty of objects to slow you down. They range from disks that send you spinning to bubbles that change the polarity of the gravity, but the most malicious is the stinger, an object that drains time as you roll over it.

There are 30 levels in the full game, and they start off gently to let you get to grips with the control mechanism. However, the maps grow quickly in both size and complexity, and it goes without saying that the time limits plummet.

When I first caught a glimpse of *Revolver* in action it didn't look particularly enticing, but after I found myself tackling the eighth level for the fifth time, I was forced to admit to myself that it's actually quite playable – it feels a little like a diverse relation of *Tetris*.

Visually staid it isn't, and with pixel-bursts reminiscent of *Spheres of Chaos* coupled with the fish-eye distortion of the map and the multicolour star field in the background, it's one of those games that begs to be played in the dark. There's no music as such, but your movements are accompanied by various clangs and whistles.

One of the nice features is that it's possible to edit both the sound and the graphics by altering the files within its directory. Brief instructions are given in the help file, and if you're fairly competent at poking around with sprite files and samples, you'll be able to customise *Revolver* as much as you want.

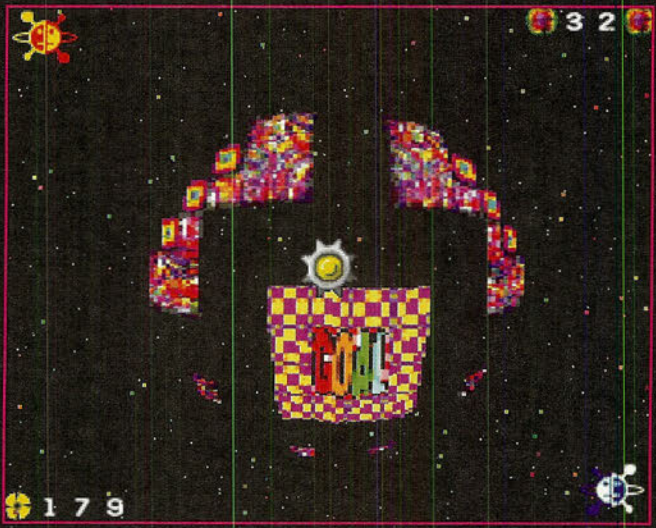
What happens if you complete all the levels? Well, there's no designer, but the maps are stored as sprites in the 'Machine' sub-directory – if you're feeling adventurous, you can even fiddle with those. Each pixel colour represents a different object on the ground, so some judicious cross-referencing should allow you to create your own labyrinths.

The only thing I would have liked to have seen was a highscore table which recorded the quickest times taken to complete levels, but I'm afraid you'll have to keep your own acheivement record.

The help file includes a line that states *Revolver* is 'value for money entertainment, not a big empty box'. I'm inclined to agree – not just because my version was tastefully presented in an individual case barely larger than the disc, but because I've genuinely enjoyed playing it.

Revolver might not pack the same sort of gut-wrenching gameplay that you find in products such as *Star Fighter 3000*, but it's satisfying in its own colourful way. If you're looking for an absorbing game that doesn't involve hacking your way through teams of malevolent robots or saving the world, I'd wholeheartedly recommend *Revolver*.

Steve Mumford



Twist the world around the spiky Catherine wheel.

Reports without Tries hard . . . . . . more effort needed

Rebekah Gall looks at computerised report writing.

School reports have become increasingly detailed in recent years, progressing from one-line comments on a single sheet to A4 booklets with a full-page allocation for each subject. Teachers must now describe achievement in terms of National Curriculum levels, outline topics studied and indicate effort and general attitude, together with an analysis of attendance figures and an action plan for future improvement.

Producing reports or Records of Achievement is time-consuming and elicits grumbles from most teachers. Last year I spent around 200 hours writing reports. Record-keeping has also become more onerous. The latest National Curriculum language syllabus contains 36 level descriptions and continuous records must be kept, showing the date and number of times that an individual pupil has achieved each level.

During the summer term of 1995 I spent every available minute compiling a National Curriculum statement bank for Modern Languages. This, I believed, would enable me to produce reports which complied with National Curriculum requirements and also looked professional. However, I could have saved myself a great deal of time and effort if I had known that sophisticated report-writing packages such as *NStore* and *Report* were already on the market.

NStore

HS Software's reporting program can store data for classes of up to 36 pupils which seems very appropriate in the current educational climate. It can hold data on all the National Curriculum subjects (including RE) from level one up to exceptional performance, and supplies a bank of comments on effort, attitude and presentation.

All files can be customised to the subject teacher's requirements. SAT results and exam and classwork percentages can be stored too. Data can be sorted and displayed in graph form. At the end of the selection process, the report is printed out, neatly incorporating the school name and logo.

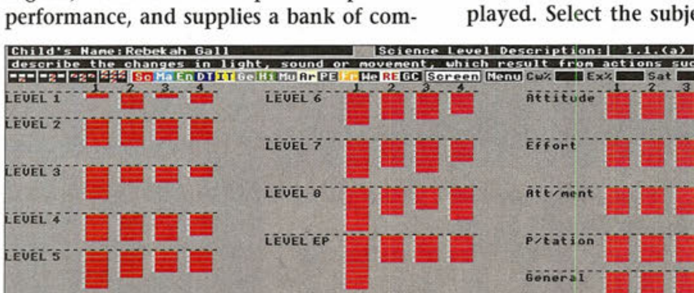
All comments are adapted to the pupil's name and sex, for instance: 'William usually enjoys class and group activities – he usually asks interesting questions about past events.' Attendance figures, including unauthorised absence, can also be displayed.

The finished product is an attractive, clearly-printed leaflet which gives detailed comments on the child's achievements in all subject areas. I imagine that most parents would welcome such well-presented information in compact form.

Although I use Acorn computers regularly at school, I would not describe myself as a computer expert. When trying out new software it can sometimes take a long time to decipher what to do. However, this was not the case with *NStore*. The screens and menus are easy to understand, and the accompanying booklet is quite simple to read.

The first screen shows the class register. After typing in the name of the class (e.g. 7A), pupils' names, sexes and personal details can be entered. It is then possible to select one pupil and move on to the National Curriculum records for that individual.

On the National Curriculum screen all subjects and level descriptions are displayed. Select the subject and choose the statements which apply to the pupil. Next, simply click on the appropriate level description boxes.



Nstore can display the NC targets as a graph for each subject.

One click indicates that the activity has been introduced to the child, and may be transcribed on the report as 'Hannah is just beginning to...' Two clicks indicate that the child has performed the activity with the teacher's aid. This may translate as 'Hannah is developing her ability to...' Three clicks show that the child has performed the activity without aid, and may be translated as 'Hannah has developed the ability to...'

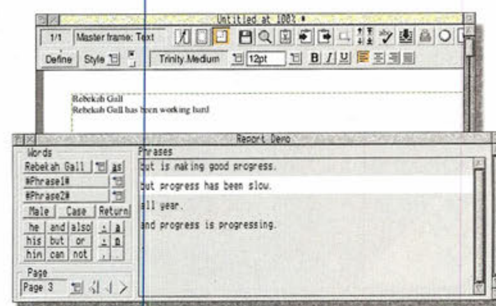
I found this particular method of recording achievement helpful. It is often difficult to keep such records neatly on paper without resorting to different ink colours and so on. I checked the level descriptions for French, and they have been lifted directly from the National Curriculum level statements.

Although this is, of course, helpful for teachers, I am less confident that it will be appreciated by parents as it is liberally peppered with educational jargon. In my department we have already agreed that many of the statements need to be modified before presenting them to parents.

Also, it is not always considered appropriate to write reports in the third person (William can...). Schools producing Record of Achievement-type reports often prefer to use the second person (you can...), allocating more personal responsibility to the individual pupil. There appears to be no scope for this in *NStore*.

I have some doubts about the appropriateness of generalised comment banks for attitude and effort, but *NStore's* comments seem quite reasonable as a starting point.

Attitude comments range from 'Hannah works with great enthusiasm in class, and has a very positive attitude' (A) to 'Hannah tends to interrupt lessons at inappropriate times, and often has to be reminded that she should take the needs of other members of the class into consideration, as well



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as her own' (E).

Typical effort comments are: 'William is a very conscientious pupil, who always gives of his best in class' (A) and 'William greatly lacks motivation, and needs to develop a much greater level of self-discipline' (E).

Statement banks are also available for presentation and general comments. The general comments are perhaps the least sound part of the package and will need to be tailored to the individual pupil if they are to prove useful to parents. One example is 'William is a happy child who is popular with his peers'; however, it is a simple job to alter these in *Edit*.

One slight concern I have is that children often perform at a similar level in different school subjects. This means that different subject teachers may generate the same effort and attitude sentences, which could make repetitive reading. Alternatives are provided for each level, but it will be necessary for one teacher, perhaps the form tutor, to read through the report to check that there is not too much duplication.

These are minor quibbles. On the whole, I like the package and would be happy to use it, both for report-writing and day-to-day record-keeping. At £44.95 for *NStore*, it has to be a worthwhile investment for any Acorn school.

A demo disc is available from HS Software for £5 refundable against a purchase.

Further reading

Two other report writing and pupil monitoring packages were reviewed in the April 1994 issue of *Acorn User*. These were *CLASS* from Curriculum Learning Assessment Dept, LSU College (Tel: (01703) 228761) and *Report Writer* from CCS (Tel: (01422) 340524, fax: (01422) 346388). There was a demo version of *Report Writer* on the November 1994 cover disc and on the CD-ROM, and a demo of *Report* on disc 2 last issue.

In the May 1995 issue, Fred Grieve looked at compiling reports using more generic software such as *Impression* and *Ovation*. It is well worth reading these articles to get an idea of all the options.

Report

Report, which is produced by Room 20 Software, offers a more flexible approach to computerised report-writing, but this requires considerable input from the user. This will no doubt be attractive to many teachers as it produces a completely personalised document.

A basic statement bank is provided to use as an example, but the statements are too general to be of any real use: for example 'Hannah has picked up the language quite well during the year'. The teacher therefore compiles a comment bank and enters his or her own selection of statements into the program.

Obviously, this will prove time-consuming, but the end result will be a set of statements which have been tailored to individual requirements and can be used for many years. This gives the subject teacher much more scope to produce statements which are meaningful and appropriate, and will appeal to those people who dislike the generality of 'ready-made' statements, such as those in *NStore*.

Once the statement bank has been compiled, it can be used again, or adjusted if necessary (this is no small advantage, taking into consideration the number of changes which have been made to the National Curriculum in recent years).

When the name and gender of the pupil have been specified, sentences are automatically adjusted to refer grammatically to the named pupil. Conjunctions are provided in order that sentences can be linked to flow freely.

Once the statement bank has been entered, the report can be compiled on screen by pointing and clicking or by using an optical mark reader. The final report can then be exported for mail merging onto a master WP or DTP file. Examples of statements provided by *Report* are:

- William has found a lot of mathematics difficult.
- William has worked reasonably well with all things considered.
- William has been working hard.
- William has made good progress with his mathematics.

Pupils can be selected individually, as teaching groups or as whole year groups for reporting, saving, printing or exporting. The maximum group size is 200, which could be useful for combining and comparing the achievements of several teaching groups.

I was interested in the use of the program for sequencing exercises in English and modern languages. Pupils could use a pre-programmed set of sentence banks to create a story or poem and then print out their own personalised version. This would be of particular use to pupils with learning difficulties.

As a non-expert, I found the instruction booklet quite difficult to follow, but I can imagine that if I were to set aside a couple of weekends, I could devise a simple statement bank and produce a set of reports for a Year 7 class which would be acceptable to pupils, parents and my head teacher. I would, of course, need to include suggestions for alternative wordings for each statement. Although the end result would be adapted to my own requirements, one of the main problems facing teachers is lack of time; for this reason I would choose *NStore* which requires fewer modifications, but produces less individual results.

However, I believe that *Report* is a useful and welcome application which will assist many teachers in the production of professional-looking reports which have an individual flavour. At £149.99 including site licence it is quite expensive, but a worthwhile investment for a school prepared to offer relevant training and support to its staff. A demo of *Report* was on last month's cover disc.

I am now looking forward to the program which takes one look at the pupil and then writes the report for me. Any offers? AU

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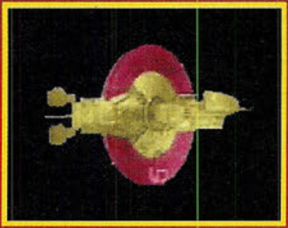
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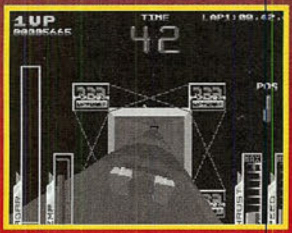
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Versatile software

Geoff Preston looks at a couple of new programs from Cambridgeshire Software House which are non-subject specific.

I'm a big fan of software which can be adapted for different subjects and for different levels. Because such software is context-free, it can be used at home for several years and hence represents excellent value for money when compared to subject-specific software which frequently is only suitable for a relatively short span of time.

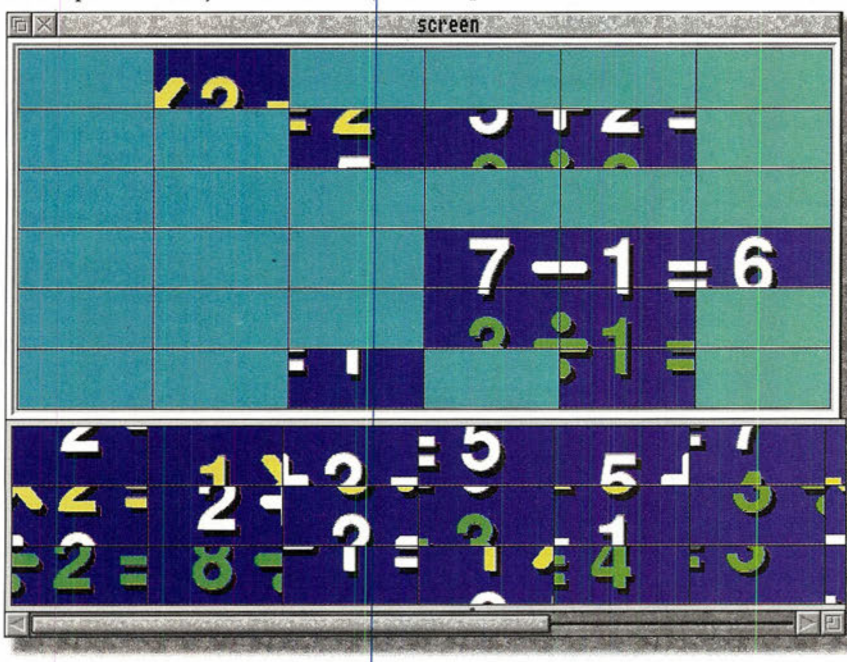
At school, context-free software can be used across different key stages and frequently staff can quickly generate material for students with different abilities. To use the latest jargon, differentiated material which could include work for students for whom English is not their first language or for those with special learning needs.

Gemini

CSH has had a great deal of success with *Gemini* which is based on the matching pairs game. The difference between *Gemini* and all the other 'Pelmanism' games is that teachers (or parents) can easily produce material for almost any subject. The material can then be used to teach or reinforce work in that particular subject area. At HWS, we use *Gemini* with Modern Languages classes for teaching both numbers and colours.

More recently we've created files for learning the names of members of the family (mother, uncle, sister etc.) It's a great way to learn, and creating files for others to use can be a very rewarding exercise, but is simplicity itself. Each 'game' consists of a sprite file containing the pairs of pictures (up to 20 pairs) and a text file to tell the computer the correct matching pairs. Both files are placed inside a blue directory folder.

Two new programs, also from CSH, have just been launched and are also non-subject specific.



Puzzler splits a sprite into tiles. The missing tiles must be dragged into position.

Puzzler

This is aimed at Key Stages 1 and 2 and it is very popular. My six-year-old twins were immediately captivated and spent several hours using the program. It installs on to the icon bar and from there either sprites or squashed sprites can be dropped on to the icon. *Puzzler* then divides the picture into 36 rectangular tiles and displays a random selection of the tiles. Below is another window with the remainder of the tiles which must be dragged into the correct position.

The picture can, of course, be on any subject and with care can be used to reinforce or learn. The example picture is of sums and solving these helps locate the correct pieces.

What Do You Know?

This program was 'pinched' from part of CSH's *World of Robert Burns*. It's a multiple choice program which reads text files of questions and answers.

Each contains a number of questions with the correct answer and three bogus ones. The program reads the questions and randomly displays the correct answer with the three bogus ones. The user has to choose the correct answer by clicking Select over it.

I have one small reservation with multiple choice tests: they can degenerate into multiple guess tests. Another stumbling block is that when writing multiple choice tests, you must devise three incorrect but plausible answers.

This program is a well-worn theme, but this is an excellent implementation containing all the special effects that make software so popular with the younger ones.

Although squarely pitched at Key Stages 1 and 2, it can be used at any level, providing the content is suitable. Some examinations have multiple choice tests and *What Do You Know?* could be a used to practise.

Conclusion

All three programs include an assortment of ready-to-use files for a wide variety of subjects and for different abilities.

More importantly, instructions are provided so that new 'purpose-built' files can be produced by either the teacher or the parent. This in itself is a fun activity and many slightly older children will enjoy creating their own files.

Gemini costs £19.95 + VAT; the other two packages are cheaper at £14.95 + VAT. AU

Contact details

Cambridgeshire Software House
Tel: (01480) 467945
Fax: (01480) 496442

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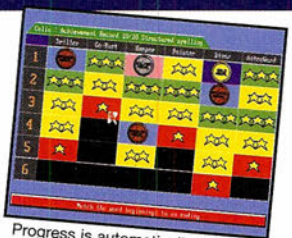
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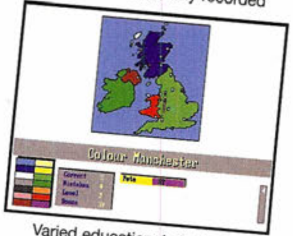
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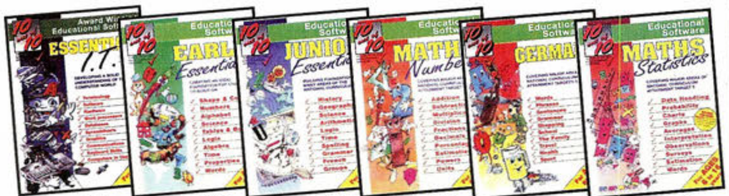


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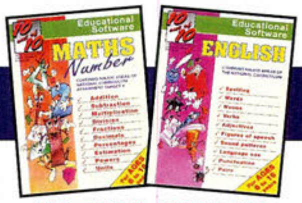
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Under another spell

Colin Rouse continues his look at software to help dyslexic pupils.

Dyspell, the award-winning software package from Sally Systems, is aimed at providing an integrated learning system for dyslexic pupils. Sally Systems was founded for the express purpose of helping children with specific learning difficulties.

About the program

Dyspell is designed to help the pupil to improve spelling accuracy, increase speed, use the correct eye movement, develop long-term memory and improve eye to hand control. It is designed to help the teacher improve the use of his or her time by handling revision, practice and record keeping and it is designed to help the parent by maximising the benefit the child obtains from each hour of special tuition, in a fun way.

It is recognised that English spelling has been analysed into about 250 topics. Each topic has been presented in a tutorial which describes, with speech, the spelling or rule, how it sounds and where it can occur. The tutorial includes examples with graphics and sound to emphasise the rule, and ends with a display of the related wordbank.

Following each tutorial session is a series of graded games to reinforce the concept. These are divided into three themes; there is also an opportunity for the pupil to test familiarity with the letters of the alphabet. Each topic has its own word bank which can be added to using the edit program contained within *Dyspell*.

The teacher or parent can control many variables which makes it possible to personalise the running of the program to the specific needs of individual pupils. These variables are stored on the pupil's own personal disc so that the software can be configured for a wide range of needs.

Also held on this disc is the pupil's statistics file. This will keep a record of the score and time taken for every game played along with other information about the pupil's attainment. You can report attainment in a number of ways and print out a certificate of achievement. In addition to the statistical records, details are held of all the words on which the pupil made errors.

These can then be printed in a worksheet format for special attention or reinforcement.

As not all spelling practice is necessarily based on particular topics, *Dyspell* has a spelling subtest system which allows the teacher or parent to establish a category or theme and set up wordlists connected to that particular area. For example, the names of characters and events from a particular point in history could be selected and applied to the spelling games and the print formats, thus providing relevance to the curriculum as well as developing spelling skills.



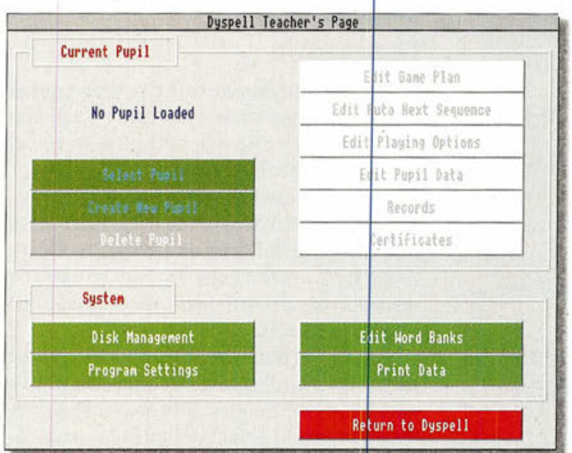
Can you build a bridge with words?

In the classroom

Having used *Dyspell* in my classroom I have found it to be a useful tool in developing skills in the dyslexic child and others with specific learning difficulties, although I have not yet managed to take advantage of the full range of options offered by the software.

Although simple and easy to use, time is needed to establish individual programs for pupils initially, using the option to develop personal pupil discs which store details of how the system is set up to run just for him or her. This would hold all the statistical information produced at the end of each game and the mistakes made.

I feel that this is a very valuable option but will initially use a lot of your time. Another point to consider is that, to run the program successfully, at least 22Mb of hard disc space is required and installation takes a (one-off) half an hour. Once done however you have a very powerful resource available to help those children with specific problems in this area of the curriculum.



The teacher's master page, showing the numerous options available.

Conclusion

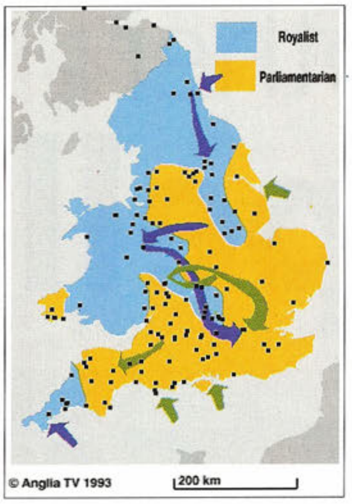
Dyspell is a very comprehensive program for pupils with specific learning difficulties, though its price tag will put off home users. Its range of options allows for a wide variety of problems to be addressed in a selection of different ways and Sally Systems are pleased to advise accordingly. It would be a useful addition to any special needs software library if the teacher or parent has the time to establish the individual programs necessary to make full use of the software's capabilities. AU

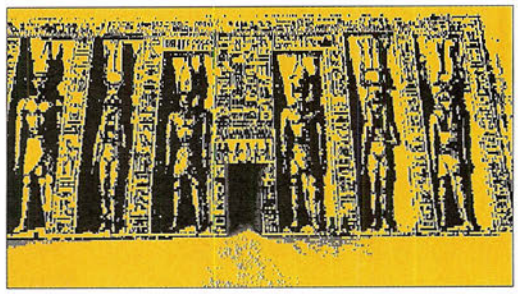
Product details

Product: Dyspell
Supplier: Sally Systems Limited
Tel: (01628) 24626
Fax: (01628) 782224
Price: £148.94 + VAT (Entry system £71.46 + VAT with modules extra). Site licences available at two and a half times the single user cost.

Pros: Very comprehensive • Can be tailored to meet the needs of individual pupils • Your own words can be added

Cons: Needs a lot of hard disc space • To set up all the options properly is time-consuming • Expensive





The temple of Nefertari . . .

. . . or the position of the opposing forces in 1642. Both for Key Plus data file packs.

Turning the key

Colin Rouse has discovered how to unlock the secrets of Anglia's Key Plus database system.

Key Plus by Anglia is the latest addition to its growing *Key* data-handling system. It is a powerful database program designed to meet the requirements of the National Curriculum. It offers an extensive and wide range of facilities in the handling of text and graphics, in statistical analysis and in integrating information for spacial mapping.

Key Plus's capabilities

This series of *Key* software is designed to provide progression in data-handling skills throughout the primary, school and beyond. Its files can be interchanged throughout the system with increasingly complex operations being available as the child progresses.

Key Plus offers a number of new features in addition to those of the standard databases, especially in the field of Geographical information.

Data plotted to maps can be scaled using numerical information and symbols can be dropped onto maps and stored for over-plotting. Added to this is a new facility which allows map features such as contour lines to be stored in data files and added to any *Key Plus* map.

I can see many uses within the classroom, especially in the fields of Geography, Science and History.

Key Plus has all the facilities you would expect from a database, such as a variety of search choices, sorting options which include multiple choices, and the ability to display information in a variety of ways including a video facility providing you have the necessary hardware. Another feature is the ability to create your own display page if required.

As previously mentioned there is the opportunity to use maps within the database, a wide range of which are available from Anglia on floppy disc or CD-ROM. This gives the ability to display points from a single data file on all *Key* maps.

For example, if the class is studying land use it would be useful to look at the climate information and the soil type. Like all maps *Key Plus* maps can include a range of information such as contours, state boundaries, rivers, roads, railways, rainfall, sunshine hours or regions held by opposing armies. The real benefit of this advance is that the user decides what will be displayed on screen by switching on layers from a map legend. These maps are available from Anglia at around £22 each.

Key Plus also supports full graphing facilities such as pie, bar, line, scattergraph and offers the opportunity to create Venn diagrams from statistical information.

Product details

Product: Key Plus

Supplier: SCA (Anglia Television)

Tel: (01268) 755811

Price: Between £60 and £180 (depending on the size of school)

Pros: Excellent support materials • Wide range of applications • Compatible with other *Key* files

Cons: Some time needs to be spent becoming familiar with the package

In the classroom

Using *Key Plus* in the classroom can enhance work in a variety of curriculum areas. I found it easiest to use one of Anglia's excellent data file packs to get started. The packs can be loaded directly into *Key Plus* and, where appropriate, are supplied with extensive printed support materials; the discs frequently include pictures and maps.

There are, at present, over 30 such packs supporting a variety of curriculum areas such as the natural world, a variety of historical topics, work in science, design and technology and geography. There is also the opportunity to obtain datafiles on CD-ROM. The packs range in price from £15 to £25 representing excellent value for money.

With no previous experience of *Key Plus* the children soon got used to the way in which the database worked. They soon learned to be discriminating in their choice of information – a necessary skill for the information age in which we now live – and found the graphics very useful when presenting their findings to others. Once they had discovered the way in which these data files were constructed it was relatively easy for them to design their own, and move on to interrogation of the data they had collected.

Conclusion

Key Plus has proved to be a very useful resource in my classroom providing the children with the opportunity to use a powerful database relatively easily. I would recommend using one of the prepared datafiles with *Key Plus* first before asking children to attempt to create their own, but these are an excellent resource to support work in a variety of curriculum areas.

One of the main benefits to come out of using *Key Plus* in the classroom was developing the children's ability to discriminate between useful information for a particular line of enquiry and information that was not relevant; very important in the age of the superhighway. AU

REVIEW

Knight Lore returns

Alexander Singleton takes a trip down memory lane with the new BBC and Spectrum emulators.

When Acorn released the Archimedes range at the end of the 1980s there was virtually no software available for it. So, in its wisdom, Acorn produced a BBC emulator to encourage the take-up of the machine. Unfortunately, despite a number of upgrades, it never coped with 'illegal' machine code as used in many games. However, for all *Magic Mushroom* fans, Michael Borcherds of Warm Silence Software decided it was about time the Beeb and Spectrum came back to life and set himself the task of writing full emulators.

The software is provided on one disc containing the emulators (which can be bought separately or together), some related 'free' utilities, a manual and a program called *Rip65Host*. An optional tape-reading program and hardware can be bought which allows tape-based software to be transferred on to discs via the printer port.

Both emulators are pre-coded with the purchaser's name and serial number – if you are buying this for someone else you will need to give details. Thankfully, no other copy protection is implemented.

Just as Acorn's PC emulator requires a copy of DOS, Warm Silence Software's two emulators (*6502Em* and *Z80Em*) require the operating systems of the machines they are going to become. While *Z80Em* has a pre-installed Spectrum ROM image (an 'image' of the OS ROM on disc), Acorn still keeps a tight copyright on the BBC series ROMs as much of the code is, in effect, present in RISC OS.

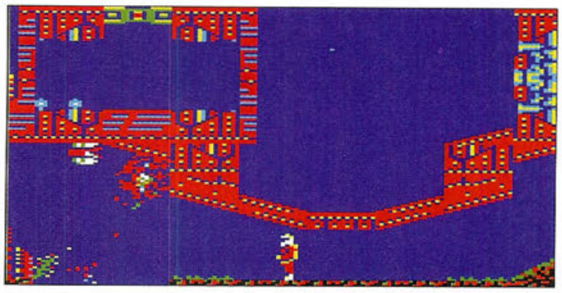
However, anyone with a copy of Acorn's *65Host* emulator already has a BBC model B ROM image; those with Risc PC or A7000 machines can request a free copy from Warm Silence. A small program, daintily dubbed *Rip65Host*, will copy the ROM image from Acorn's emulator to *6502Em*. If you own a Master or Compact, utilities are provided to copy the ROMs from these. The programmer is working on an Electron emulator as I write.

One of the most striking advantages of these new emulators is that once booted by the Filer they will intercept any BBC or Spectrum files you try to run. In other words, you can be looking at some of the old cover discs on the *Acorn User* CD-ROM, double-click on a BBC machine code program and will it run just like any other file.

On loading either of the emulators a distinctly low-resolution icon appears on the icon bar. Clicking on this enters the emulator which displays a screen just as if you had switched on the corresponding machine. F12 will return you to the Desktop.

Each emulator's icon bar menu leads to an options sub-menu and enables a 'snapshot' of everything in the emulated computer's memory to be saved to disc. This allows you, for example, to play a game up to a certain point, save it and then go back to it at a later point without the game actually having a save feature.

Sound is fully emulated (including the speech in *Exile*) as is BBC 'hardware scrolling' which is when a program tries to send messages directly to the BBC's video chip. The mouse can be used by games with a joystick option and the A3010 joystick port is fully supported.



Exile from Superior Software was hailed as the best adventure game ever created. Arguably, it still is.

So how do these emulators stack up when compared to real machines? Most emulated software feels as fast as if it were on a real machine. In fact, the emulators test how fast they are going and slow down accordingly (the BBC emulator allows this to be turned off). I performed a number of speed tests comparing the real machines with my ARM610 Risc PC and found that when running sound or maths-based programs, the emulators ran them at an accurate speed (or considerably faster with the exact speed option switched off). When running games which used hardware scrolling, the result was slightly slower but still very acceptable.

I tried running several hundred games on the emulators and all worked fine, including *Exile*, *Knight Lore*, *Elite* and *Revs*. The optional tape-reading software can handle cassettes with a number of files of the same name, which is not normally allowed on disc. It does this by saving to disc a single file containing all of them. When this is run, the emulator appears to load the files as though off a tape, taking as long. A 'snapshot' can be taken afterwards to speed up the process.

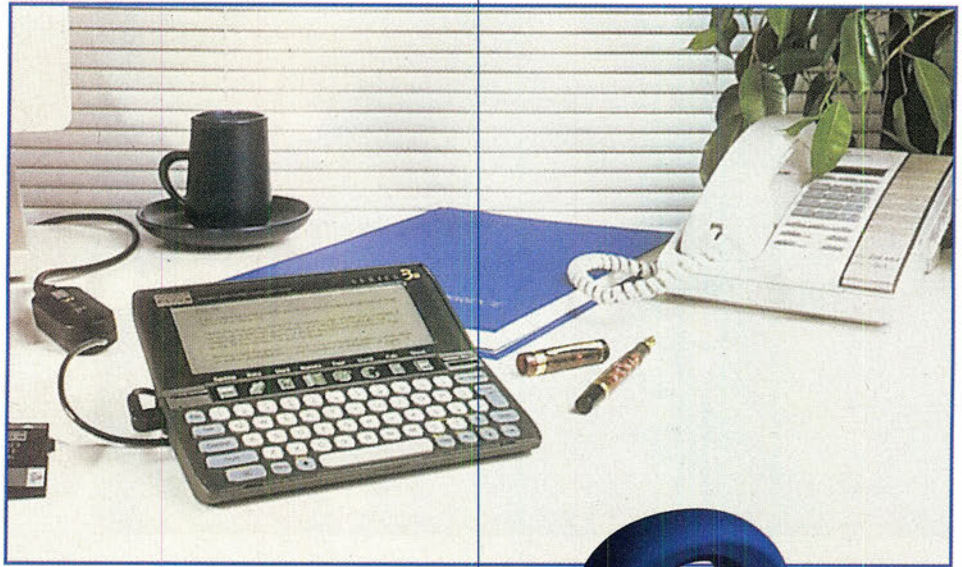
Anyone missing just one BBC or Spectrum game should seriously consider buying the emulators. However, they are far from being just for games players. Many research establishments and primary schools are still using BBC computers. And, if you do want to play games, a Spectrum CD-ROM is available containing roughly 3,000 games: a BBC CD-ROM is in the pipeline, copyright permitting. AU

Product details

Product: BBC and Spectrum emulators
Supplier: Warm Silence Software
Tel: (0585) 487642
E-mail: Robin.Watts@comlab.ox.ac.uk
Price: £15 each or £25 for both (no VAT)
Tape reading software £5 (no VAT)
Parallel port to tape adaptor £15 (no VAT)
Spectrum CD-ROM when purchased with *Z80Em* £15; otherwise £18 (no VAT)

Pros: Run virtually all BBC and ZX software • Programs can be run from RISC OS Filer windows • Enables game states to be saved • Tapes can be loaded

Cons: No Master or Compact image supplied • No tutorial or interactive help • No real Atom or Electron emulation yet



Fireproof password protection • Using the A-Link with a Psion 3a • Printing through dongles • More on modem speeds

Questions & Answers

Q After successfully writing a password program for my A4000, I have discovered that it is open to Shift-double-clicking. Is there any way of stopping this?

Tony
London

A Not easily. I have seen one form of protection where an application had a second pseudo-application inside with a *!Boot* file which closed the directory as soon as it was opened, using:

```
Filer_CloseDir <Obey$Dir>.^
```

Unfortunately this too is easy to get round, as if you hold down Ctrl when opening a directory the Filer won't boot any of the applications in it. There's also very little you can do about someone going through the directory structure using the command line.

If you are up to the challenge, you could always create a partition on the disc and store your files in that. If you use a suitably encrypted filing system and a good password algorithm then it wouldn't matter if anyone broke into your application, because they still wouldn't be able to get at your data.

Q My father has a Psion 3a mini computer, like the Acorn Pocket Book II. Can he transfer files to our A5000 using the A-Link software, and if so will this work on a Risc PC 700?

Simon Wilson
Wellingborough

A Yes. There should be no problems at all with this. The Psion Series 3a and the Pocket Book II are interchangeable as far as connecting them to other machines is concerned (as indeed are the Pocket Book I and original Psion Series 3). Make sure that you get the latest version of the A-Link software to run on the Risc PC – version one will not run.

Q I was interested to read the answer to a letter from Nigel Parker in the November issue of *Acorn User*. I have an A5000 with a Cumana CD-ROM drive attached to the computer parallel port, and an HP500C printer connected to the CD-ROM drive's extra printer port via *Impression* and *ArtWorks* dongles.

After start-up the system fails to print unless either the CD-ROM software or *Impression* is started. I wrote to Computer Concepts and thought that readers might find the advice of Mr A J Richardson (Technical Support Manager) useful:

'An interaction between OS diagnostic routines and hardware key tolerances can prevent data from exiting the computer until the parallel port is reset – by loading *Publisher/ArtWorks*. When the OS diagnostic routine checks the presence of the parallel port it does not reset after the test.'

Mr Richardson kindly sent me a utility called *Dpatch* (which does nothing more than reset the parallel port) and since including this in my boot sequence there has been no further problem.

John C Jones
Alton

A Hats off to CC's technical support for solving the problem here, which I *believe* only affects older dongles. If you are having similar trouble, you now know the solution.

Q In Questions and answers in the December 1995 issue, your answer to J William Kay about modem speeds misses the point entirely.

I don't know what an A3000 serial port is or isn't capable of, but it's irrelevant, as the 'reliably connect at 14400 to Demon' refers only to the speed the modems have negotiated. The report

```
CONNECT 14400
```

comes from the modem.

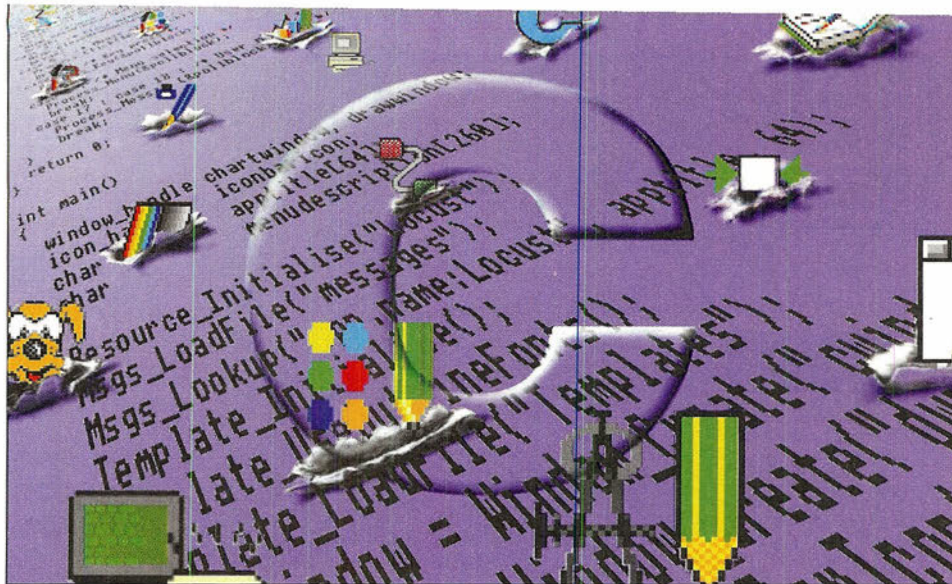
The computer-modem speed is independent of the connection speed, although as you state it makes sense for it to be two or four times greater. Incidentally, according to the RISC OS 3 PRM, there *isn't* a 14.4 speed for the serial port – there's nothing between 9600 and 19,200.

Adam Curtin
adam@ifeng.demon.co.uk
http://www.ultranet.com/~acurtin/adam.html

A I think that 'misses the point entirely' is a bit harsh – I did explain why you can need a faster serial port than you might expect, which was the main point of the question.

I agree that the speed that the two modems communicate at (which is the one reported as the 'connection speed') has no bearing on the speed at which the computers at either end talk to their modems (which is the speed set in, say, *Hearsay* as the TX and RX rate). However, if the computer to modem speed is less than around four times greater than the modem to modem speed, you won't be getting the theoretical best out of your system.

Obviously if your modem to modem speed is 14,400bps and your modem to computer speed is only 9600bps, then 9600bps is the maximum that you're ever going to transfer data at. The modems will send the data in short bursts, constantly filling their buffers as they wait for the computer to catch up. AU



JACK KREINDLER

C for yourself

Steve Mumford starts to look at the initialisation of a WIMP application.

In this month's tutorial we start looking at the SWI calls needed to register a task with the WIMP. We concentrate on the WIMP's polling mechanism and the syntax associated with the various calls. Once we've got that under our belts, we can move on to their implementation.

Firstly, our prospective WIMP program must have been designed with a main loop at its core, so that when multi-tasking we can listen out for events we're interested in and call the appropriate functions from within that loop. Before we can actually start to multi-task, we have to inform the Task Manager that the code is both ready and suitable. On the same theme, we must remember to tell the Manager when the program is about to terminate.

So, how does the WIMP communicate with our prospective application? At the start of the main loop, we interrogate the WIMP to determine whether we have received any events since the program was last active. For instance, these might be due to a mouse click or a pointer entering our window. If so, a data block is passed back to the code including all the relevant information, and we can then act on it by calling separate functions as appropriate.

When we've dealt with all the events that have arisen, we pass control back to the WIMP. If there have been no events relevant to our program, we can return immediately and so minimise on the system time taken up.

In brief then, we need three functions so far – an initialisation, a poll and a finalisation routine. These are supplied as Acorn SWIs with the names **Wimp_Initialise**, **Wimp_Poll** and **Wimp_CloseDown**. Now we know what the system calls are, here's the information we need to pass to each of them.

Wimp_Initialise is the SWI that registers our task with the WIMP, and it takes values in the registers from 0 to 3. In register 0, we must pass a number equal to the version of the earliest WIMP we can use, multiplied by 100 to convert it into an integer. This is to prevent compatibility problems when programs making use of the newer versions of RISC OS are loaded on older machines.

Next, we need to introduce ourselves as a program that can cooperate with the Desktop, and this is done by passing a particular value back in register 1 – &4B534154. This value might look a little cryptic at first, but it's the hexadecimal equivalent of the word 'TASK'.

The last vital piece of information to supply is an address in register 2 that points to a short string – to be used by the Task Manager in its application display. It's possible to pass another value in register 3 informing the WIMP as to which messages interest us – however, at this level we're still interested in them all, so we can set register 3 to 0.

If all goes well, **Wimp_Initialise** should return two values – the current WIMP version number multiplied by 100 in register 0 and a unique task handle in register 1. This is just an individual numeric name that's been allocated to us for the duration of our execution.

To interrogate the WIMP about any events we've received, we need to call **Wimp_Poll** with the address of a prepared 256-byte data block passed in register 1.

Again, it's possible to make things more efficient by passing an event mask in register 0, but for now no mask is required. After the SWI returns, register 0 contains the code of the event that's just occurred. We can then deal with that by examining the data placed in our poll block and calling other parts of our program as appropriate.

Finally, the **Wimp_CloseDown** call informs the WIMP that our program will be terminating – we simply pass our task handle in register 0 and the 'TASK' hexadecimal value mentioned earlier in register 1.

● *That's all I've got space for but next time we'll start to fit these calls into the skeleton of a C program and take a quick look at how the various WIMP libraries available deal with the problem. See you soon.* AU



Run the RISC

Mike Cook gets the MIDI blues.

When is a bargain not a bargain? When it's not what you bargained for. That's true whatever the price. If it's not what you're expecting it is no longer a bargain. I'm not talking about the 486 card but another disappointing buy from Acorn.

Mind you this was my fault; there I was at the computer show with my Clan Acorn bargain list when I spotted the AKA12 MIDI interface going for a song. My son Alec had just started getting interested in music composition and I thought that a MIDI interface for his keyboard would be just the thing, so out came the plastic and delivery was promised in two weeks.

When it arrived and was prised out of its box, scattering plastic squiggles all over the place, I immediately spotted my mistake; it was designed to fit internally in an A3000 and I don't have one of those. No mention was made of this on the bargain sheet but I assumed that Acorn thought a Clan member should know better.

Now I do know a bit about the architecture of the ARM computers and I know that they are all very similar, so I began to wonder if it would be possible to convert this interface to use it in my A310 or Risc PC 600. I felt sure that the electrical signals could be matched but what about the software? Would this be tied to running in just the internal slot space of the A3000?

As you might have guessed, I achieved some success or else I wouldn't be writing this now, but let me take you through the project.

What is MIDI

For those of you not familiar with the term MIDI, it stands for Musical Instrument Digital Interface and was originally designed for letting one synthesizer trigger another. It's been around for many years and now with the advent of computers it is finding many uses in composing and recording music. From the electrical point of view, a MIDI signal is quite simple – it's just a standard serial interface but running at a very non-standard speed of 31.25kbaud.

This might seem a strange speed, but it was arrived at by making the hardware simple. A UART is a chip that converts serial to parallel and back again and this needs clocking at 16 times the baud rate. Now a 1MHz crystal is cheap and easy to get and if this is divided by two – again another simple circuit – you get a clock of 500kHz. Feed this into a UART and 500/16 gives you 31.25kbaud.

This is much simpler than computers which are tied, historically, to doublings of the 300baud speed. If you were to design your computer with this in mind you could have a MIDI interface using the same hardware as the standard serial interface. As far as I know, only the Atari ST did this and so for a time there was a lot of music software for this machine. I could have simply designed a MIDI interface to plug into the printer port but then I would have had to write all the MIDI SWI calls to make it compatible with other software on Acorn machines.

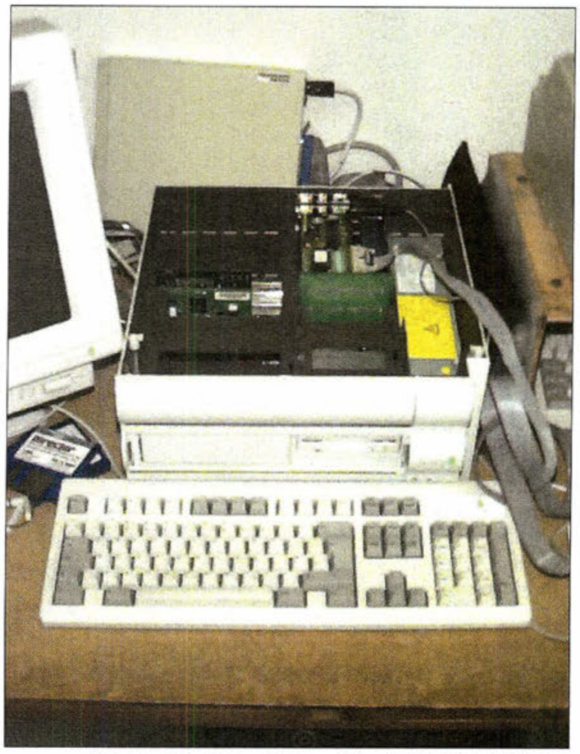
I thought a MIDI interface would be useful not only for Alec but also for me in these articles, as I have some ideas for novel musical instruments and with a MIDI connection I could get them to sound quite good as the sound would be played on dedicated instruments. So how could I adapt the board I had to my computers?

Squaring the circle

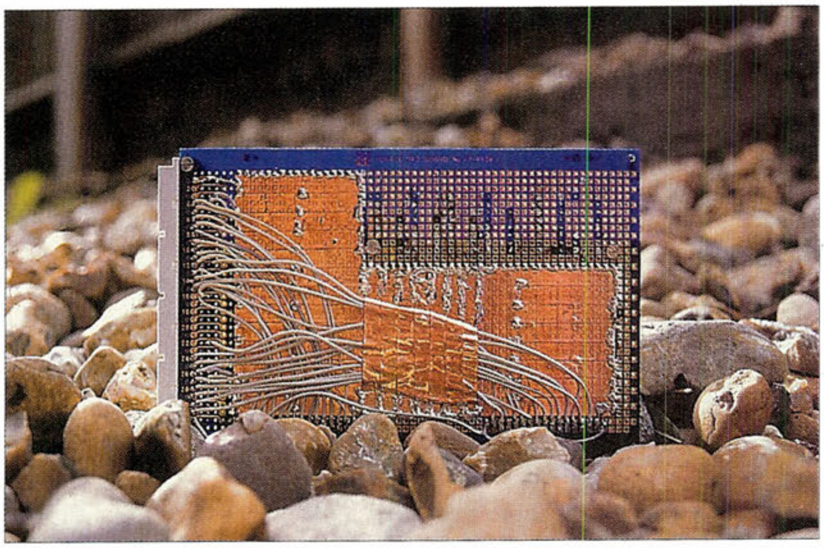
The first major problem was a physical one. The A3000's internal podule space is a totally different shape to most other Acorn machines.

Basically it's a 68mm by 160mm board fitted with two 17-way 0.1 inch pitch in-line connectors. The space for normal podules is a standard single Eurocard fitted with a three-row 64-way plug. A standard Eurocard is 100mm by 160mm so, in theory, the interface should fit on a card. Unfortunately, the standard plug on the Eurocard intrudes 12mm into the board thus reducing the space available, so on the face of it there was simply not enough room.

On closer inspection I saw that there was not much on the right hand end of the AKA12 board, and if I relocated one decoupling capacitor I could trim



The new interface card in position inside Mike's Risc PC.



REGAN

The back of the board showing the copper ground plate

13mm off the end of the board and (just) fit it on a Eurocard. However, before I did this I had to remove the back panel from the AKA12 which was pop-riveted on.

It's quite easy to remove pop rivets if you get the right size drill as most of the hole is ready drilled for you. A 1/8in drill was perfect and it came off quite easily (this was the point of no return, as once I had drilled the panel off I couldn't sell it).

Now to move the decoupling resistor C4; this needed to be unsoldered from its position on the far left of the board and moved 5mm to the right. It was re-soldered with one wire on the first of the resistor-like zero ohm links and the other wire in the solder hole opposite it. This can easily be identified as there is a thick copper track going to pin 2 of the 17 way SK5 plug. Next I soldered a wire from pin 1 of this plug to the junction of the capacitor and zero ohm link, because chopping the end of the board would disrupt this connection.

To chop the end of the AKA12 I scored a line straight through the holes where C4 had been. By making several strokes with a sharp hobby knife on both sides, the fibreglass printed circuit could be easily snapped without tearing. Stage one complete; I now had a board that I could think about fitting in a standard podule.

Interface wiring table

AKA12 SK5 pin	Name	Eurocard
3	/PRE	15c
4	PR/W	13c
5	LA[4]	13a
6	LA[5]	12a
7	LA[6]	11a
8	LA[7]	10a
10	LA[8]	9a
11	LA[9]	8a
12	LA[10]	7a
13	LA[11]	6a
14	LA[12]	5a
15	LA[13]	6a
16	/PIRQ	16c
SK6 pin		
2	/PWE	14c
3	/Ps1	22c
4	CLK2	27c
5	LA[2]	15a
6	LA[3]	14a
7	BD[0]	31a
8	BD[1]	30a
9	BD[2]	29a
10	BD[3]	28a
11	BD[4]	27a
12	BD[5]	26a
13	BD[6]	25a
14	BD[7]	24a
15	/RST	12c

Power connections:
0 volts: SK5 pins 1 & 17, SK6 pin16, Eurocard pins 1a, 1c, 3c, 4c, 26c

5 volts: SK5 pin 2, SK6 pins 1, 17, Euro Card pins 30c & 32a

Wiring up the new board

The next stage was to mount this board on a Eurocard board. Fortunately I had one of these going spare that I had built a circuit on many years ago. Most of the components had long since vanished into other projects so I set about stripping it down. If you can't get hold of a scrap board, buying a new one would probably set you back more than you would gain from doing the project so your only choice would get a piece of fibreglass board – say some PCB material – and drill the holes to suit the plug.

The pins on the board were lined up with the holes at the edge of the Eurocard and pushed home. Then the pins were snipped off to leave just 3mm showing through the board and finally the pins were pushed over. I drilled a hole in the Eurocard where one of the pop rivets had been so I could secure the board with a 4BA bolt. However the other pop rivet hole was on the section of the board that I chopped off and so I had to drill another hole between the MIDI sockets and the 20-pin header.

Now, before I wired up the AKA12 to its new socket I decided to act with a little caution. The point about laying out a circuit on a printed circuit board is that there is less chance of picking up interfering signals. This is especially true if there is a groundplane on the board.

A groundplane is simply a large area of copper, normally sandwiched in the middle of the board, that is connected to the signal earth or ground. As the wires run close to this it forms an effective shield against interference. So, as I would be extending the signals from the Eurocard plug to the AKA12 board, I thought I would install a groundplane first.

I did this by laying out strips of 6mm wide self-adhesive copper foil along the back of the board. I carefully placed the foil so that the adjacent strips just butted together and then went round with a soldering iron tacking the strips together. Finally I attached the sheet of copper to zero volts; that's pin 1a and pin 1c of the Eurocard plug.

All was ready to wire up so I next consulted the technical reference manuals for the A310 and the A3000. Basically the internal expansion card of the A3000 is a subset of those normally available. It is configured as Podule 1, Module 1. There was a bit of discrepancy in the labelling of some of the signals between the two machines but I managed to sort out a wiring table shown in the box.

Then came the tedious job of running wires between the Eurocard's plug and the AKA12's pins. I used thin multi-stranded wire and made sure that they ran as close as possible to the groundplane. There is only about 0.5mm of the Eurocard plug's pins sticking out so you have to be very careful with your soldering.

The secret is to have only about 1mm of wire sticking out through the insulation and then 'tin' it. 'Tinning' means applying the soldering iron and a little solder; you will see the solder flood between the strands of wire. The applied heat usually makes the plastic insulation retreat a little so after tinning the wires are re-trimmed. Then place the end of the wire against the pin and apply the iron and a small amount of solder.

This was such a boring and repetitive job that I did it in three separate 20-minute sessions over three days. Having made all the connections I finally ran about seven strips of copper over the

bunch of wires going to the furthest connector.

Now I'm not saying that all this messing about with copper foil is essential, but it can't do any harm. You can get copper foil strip from craft shops where it is used to run round the edge of stained glass when making lamp shades and planters.

Plug in and play

The moment of truth; I plugged it in and powered up the computer. Pressing F12 to get to the command line and typing in ***Podules** revealed the news that – joy of joys – 'Midi and User Port internal podule' was in slot number three.

To test it out, the AKA12 manual tells you what steps to go through to get your MIDI keyboard playing the computer's sounds. It's simply ***midisound in** and again success – it was working! Actually, being honest here, it didn't work first time; after an hour of fiddling and checking I found out I had missed an interrupt signal wire off my wiring table. But, when that was in place, it worked.

I tried a few PD programs and commercial demos and they confirmed that the system was performing well. I liked Riff, this would generate a random pattern, repeat it and add extra notes. This resulted in a minimalist sort of sound reminiscent of Philip Glass – it's on the cover disc if you have a MIDI interface and you're interested.

The User Port

The AKA12 also has a User Port as well as the MIDI interface and the manual's instructions to test that did not work. For some reason the OSBYTE calls kept producing an error message of command not recognised. However, I was able to access this by using the 'Podule Raw Read' call as described on page 147 of volume four of the PRM.

The only problem with this call is that you need to know the offset address within the podule of the User Port. The AKA12 manual was not very helpful; it did provide an offset address but this was wrong, so how could I find it? Well, I know that a VIA powers up to act as an input, therefore I connected the User Port as an input and grounded the least significant bit. This gave a value of &FE or 254 when it was read.

Then I wrote a short program to look at every address in the podule until it found 254 – in that way I could find the base address of the VIA. It turned out to be &800, with each successive register of the VIA occupying the next 15 locations. There is a small test program on the cover disc that illustrates reading and writing to the User Port.

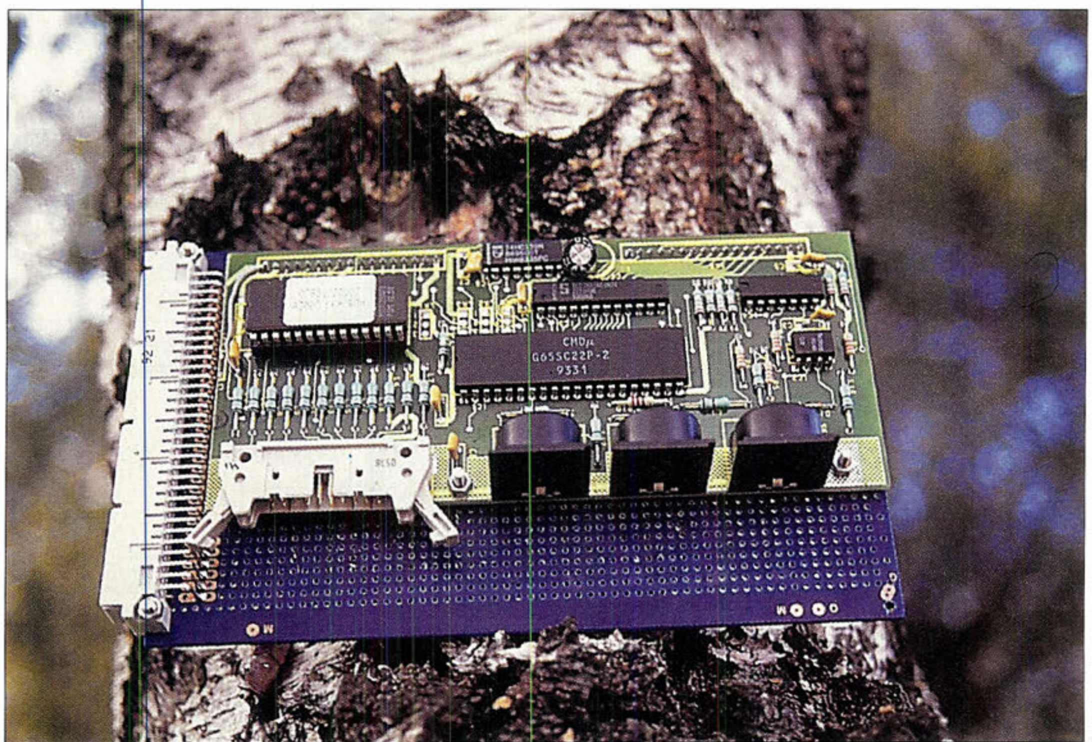
Fitting connectors

The only remaining snag was the clearance for the MIDI connectors; there is only 28mm between the sockets and the edge of the board on my RISC PC 600 and the power supply is in the way of the MIDI connectors in all but the top slot. As a temporary measure I could get round this problem by removing the plastic covers from the MIDI lead's DIN plugs, but this meant removing the lid from the computer every time I wanted to plug something in.

To get round this I installed a 6-pin DIN socket at the corner of the board facing outwards and wired this up to bare plugs. Then I made a small box that expanded this 6-core connector to the normal three MIDI sockets. Finally I made a small metal bracket to fix on the back of the Eurocard and bolt to the back of the computer.

I did not make provisions for bringing the User Port connections out but this can easily be done. What you need is a 20-way IDC (Insulation Displacement Connector) socket and plug. You can mount the plug either on the back of the bracket or bring it out on a flying lead.

Having got a MIDI capability I can now set about designing projects that can make use of it as either input or output. My initial thoughts are that on the input side you can take the stream of MIDI data from an instrument playing and use it to control graphics and shapes. On the other hand you can take all sorts of sensors and convert them into MIDI data and have your MIDI keyboard turn them into sounds. Whatever I do, rest assured I will let you know as I continue to Run The RISC. AU



The A3000 podule had to be cut at one end to fit on a standard podule.

REGAN

*info

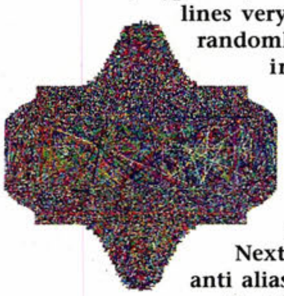
Dave Lawrence and Dave Acton present more programs, tips and techie trivia from beyond the PRM.

Lines of attack

Author: Jan Vlietinck

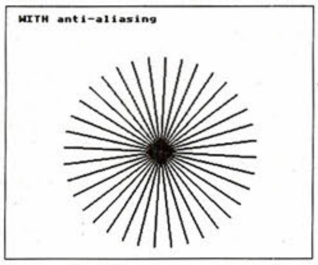
Here's a collection of three graphical ditties based on the surprisingly simple concept of drawing straight lines, but with our old friend Jan Vlietinck at the helm you can be sure that the results are far from boring.

The first, *Hyperline*, demonstrates a method of drawing lines very quickly. The routine is fed with randomly generated start and end points in a 256x256 grid. The lines are plotted and also clipped to a rectangular area which can be changed by moving the mouse. The algorithm for drawing the lines uses only three instructions per pixel drawn.

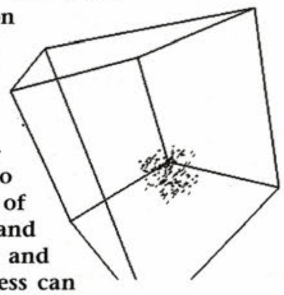


Next up is *AntiAlias*. This shows how anti aliasing can be used to great effect to smooth off nasty jaggies along the edges of lines. A number of slowly rotating lines are drawn radiating out from a central point.

Every second or so, the display is changed between ordinary lines and anti aliased ones – the difference is really quite striking. The mouse can be used to move the pattern around the screen. This also demonstrates the clipping used.



Of course you do have to pay for this improved display with a slower line redraw and the use of more colours. The trick behind anti-aliasing is to work on a finer grid than the physical screen dimensions of 320x256 pixels. For an arbitrarily positioned 'virtual' pixel, up to four 'real' pixels would need to plotted. The intensity of these set to be proportional to the amount of the overlap of the virtual pixel and the real pixel. For lines starting and ending on real pixels, the process can be simplified to setting only two pixels per virtual pixel.



The final demo from Jan is *3DSwarm*. This demo is inspired by the Unix *2d-Xswarm* screensaver but taken one dimension higher; it also uses anti-aliased lines for the bees and wasp. One line bounces around in the rotating cube – this is the wasp. The other lines are the bees swarming around it. The engine behind the animation is an attractor kind of algorithm, with speed limits on the bees' movements. With anti-aliased plotting, practically all the artefacts associated with near vertical or horizontal lines are absent. The mouse buttons can be used to move or zoom the view.

Singing corner

Authors: Mr Adamson and Barnaby Rowe

Having managed to avoid the perils of Stinky Gordon last month, here as promised is the second instalment of seasonal music from regular MIDI-ite Mr Adamson. Not much more we can say about these especially as we've got to meet for cross-country on the gym lawn in 10 minutes...

By way of contrast with these classical tunes, you'll also find a techno-acid-rave-jungle-garage-dub-house Digital Symphony type piece on the disc. This comes courtesy of Barnaby Rowe (ARMan). This can be played from *Flux* (on the June 1995 cover disc) or any other music player that can handle compressed *Digital Symphony files.*

As always music, in any form – MIDI, Tracker, *Digital Symphony* or Maestro can be submitted to us at the usual address. But please, no more Christmas cards – at least until next year.

Up to date

Author: James Miskin

This is an extension of a program originally for the PC that was ported onto the Arc by James Noad. According to James Miskin, the original Arc version was very good it did have some draw-backs. He has provided the solution:

'It was not possible to select another date other than Today,' writes James. 'Although the program was designed for the current day, the original PC version did allow you to change the day. To add new days you had to use Edit and put in all the codes for date, year, type and day yourself. Although this would be possible I thought that it would be better if the program could do it.

'The Arc version, although run from the Desktop, was not fully multi-tasking and I wanted a multi-tasking version to make it even easier to use with other programs.'

This new program has all these features. When it is run by double-clicking its icon in the Filer window you get a main window with all the records for the day on which you run it. There is also a line of icons across the top.

The first two alter the month and day; Select will increase and Adjust will decrease the value. 'Scan files' will take the new date that you have selected and bring up all the records for that date. The Search icon will bring up a window allowing you to perform searches in the files for specified items. The 'Add date' icon will show a window allowing you to add data to the files on disc. This will then allow them to be found at a later date by the program.

To perform a search you must first set up the search string, which can be anything that could be in the text. The program will then scan through all the files for any record with your search string in it (you can also use '?' as a single character wild card). The three tickable icons on the right of the window allow you to select the types of record allowed.

The range facility will allow you to ignore records that are outside a range specified. To make this facility work you have to select the 'In range' icon. There is a maximum of 255 records or a little more than 30K of search text; going above either of these will cause an error. Assuming you are specific enough, these will not occur.

To add a new record to the file, select the date for the entry with the three white icons on the left. The type can be set with the three tickable icons. The 'Own file' and 'Month file' options allow you to set which file the entry will be added to.

The special day section allows you to select whether to have a special day and which day it will be. Having a special day allows you to have dates which will only show on a certain day. For instance, if you were to have a record with a special day of Sunday, the record would only appear on a Sunday. This allows you to put dates in that are on the first Sunday of a month, or on specific days like Father's Day.

The 'Record date' icon allows you to save it to file and the 'Clear text' icon will clear the five text icons at the bottom of the window.

If you wish, you can edit the text files in a text editor provided that each line is followed by a newline character and also that there is only one newline character at the end of the file. The format for an item is as follows:

Column 1: the record type, which can be a B for birthdays, S for special dates in history or R for a reminder.

Columns 2-5: month and day as MMDD with leading zeros. Zeros for either month or day cause *ALL* months or days to match when being scanned. For example 0001 would match the first of every month while 0400 would match every day of April.

Columns 6-9: The full year of the event as four digits, which may be left blank.

Column 10: A special processing flag. This may be blank for no special processing, C to continue a message from the previous line (note that you *must* repeat the date fields) or a day-of-the-week digit where 1 is Sunday and 7 is Saturday. A day-of-the-week entry will cause the message to display only if the date falls on a certain day of the week – look in the November file for voting day examples.

These columns should then be followed by the text and a newline character. If you want to add items with a text editor you must make sure the format is correct because the program will not check for you.



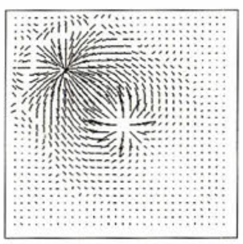
The day today, on 17 December.

Iron filing system

Author: Sam Fernando

Sam Fernando is the creative force behind this latest of classroom physics experiments to be converted to the screen.

IronFile2 and *IronFile3* give the game away in their titles really. On screen is an array of 'iron filings' – single dots in the case of *IronFile3*, short lines in *IronFile2* – and the pointer, which has become mysteriously magnetised, has the sort of effect on them you might expect. You may find the dot version faster, for obvious reasons, although both programs are entirely in code and so zoom along very respectably.



We're not entirely sure if this is an accurate simulation, or indeed if it is a simulation at all. The code looks pretty clever and the result is pleasing to the eye, so no matter anyway.

Get it taped

Author: David Seery

A fiendish exercise in intelligent programming now from David Seery of Lancashire. He wrote his *FitTapes* utility for a department in an inner-city Manchester school that wanted to rearrange its video resource although, as the author points out, the program could be used in any environment where a 'best fit' solution is required.

The utility is non-multitasking so is best run in a task window. The syntax is:

```
*FitTapes -s <source file> -o <output file>
```

The source is a text 'script' file and the program uses fairly sophisticated lexical analysis to decode it. David explains how:

'Videos may be declared by a construct of the following form:

```
video <video_length_specifier> id1, id2, ... ;
```

where **video_length_specifier** declares the length of the video and is one of either e60, e120, e180, e240, e360 or e480. As many video declarations as you require may be present in the script.

'FitTapes allows programmes to be considered members of specific categories, which are grouped together when calculating the best fit. Categories may be declared in the following manner:

```
categories { <category_name> , <category_name> , ... } ;
```

Finally, programmes themselves are declared with the programme construct:

```
programme {
  from <source_video>;
  starts <start time>;
  ends <end_time>;
  category <category_name>;
  precedes <programme_name>;
  follows <programme_name>;
} <programme_name>;
```

'All programme names should be enclosed in quotes and the times are in the form 'hours minutes seconds'. The **category**, **precedes** and **follows** declarations are optional.

FitTapes only allows either a **category** declaration or one or both of **precedes** or **follows**, and will complain otherwise. The declarations within the programme construct may appear in any order, as may the **video**, **categories** and **programme** declarations. However, all videos and categories must be declared before use.'

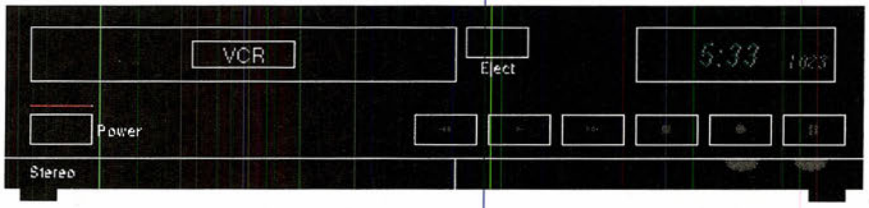
For neatness, the script should start and end with **begin** and **end** respectively. Naturally, a simple example (*testdata*) is supplied on the disc.

'*FitTapes's* methods are related in some way to the *Ominoes* competitions (*INFO, Feb 93). *FitTapes* uses a brute force method to attack the so-called packing problem because it has all the data available to it at the start. It will always produce the best result.'

The algorithm that actually does the work is – as you might expect – recursive and in fact is only 36 lines long. David freely admits that a more intelligent algorithm could be devised, although the current version does save time by avoid permutations that don't meet the **category**, **precedes** or **follows** criteria.

The output file includes many details, including a breakdown of the final 'best fit' and the total wasted tape time. It concludes with a list of directions about copying programs from the source videos to the more efficiently arranged destination ones (note that the program assumes that you have a separate set of blank videos to copy to).

If you are running on RISC OS 2, make sure that you have the *CLib* and *FPEmulator* modules loaded before you run the program.



Vibe trio

Author: Jan Vibe

*INFO just wouldn't be the same without a graphical ditty from Mr Vibe. And one Vibism wouldn't be the same without two more.

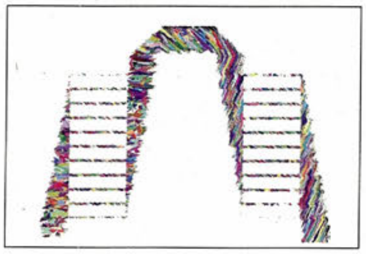
Plant and *Gate* are exercises in use of the block move command, also known as **PLOT &BD** (or **RECTANGLE FILL TO**). By repeated use of said command, a random source of coloured triangles can be sucked along channels to build up an interesting image. *BlackHole* takes the idea one stage further, as the man himself explains:

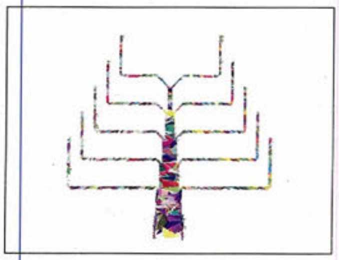
'Powerful as the **PLOT &BD** command is, it can only be used to scroll graphics vertically or horizontally. What I wanted was a procedure which scrolls the contents of a line on the screen along the line in any direction. A sort of graphic conveyer belt. This is achieved with the procedure **PROCL** [nice name, Jan], which takes six arguments: start point and end point for the line, the width of the line, and the distance the contents of the line are to be moved. The contents are always being moved towards the endpoint.

'It works by grabbing as a sprite that part of the screen where the line is located. The line is drawn "in" the sprite's mask and the sprite is plotted on the screen again. You can make some strange graphic displays with this procedure.'

In fact there are a couple more examples of this cunning technique from Jan which will be appearing in these pages soon.







A bit pointless

Suggested by: Adam Iley

Adam Iley of Northumberland has sent in a nomination for our long running 'most useless system call' competition. His suggestion is the frighteningly pointless:

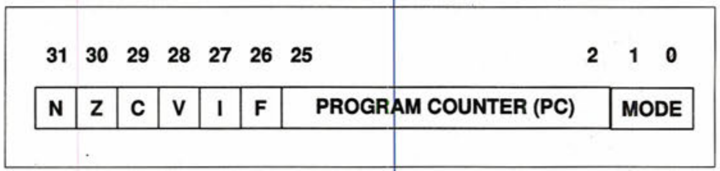
```
SYS "XOS_GenerateError"
```

Clearly, without the X the call is invaluable, taking in R0 a pointer to an error block and invoking the current error handler. However, with the X, the call just meekly returns. 'Even the manual', Adam points out, 'says this is not very useful.' What is the point, after all, of a call to generate an error that doesn't?

Well, the call *does* have one minor purpose. It sets the V flag. It is not, we freely admit, the most efficient way of doing so, but it gave us the idea of using a few column inches to expand on just how you can best alter flags in the Processor Status Register (PSR).

Long gone are the days of the 6502 where to set the carry flag a simple one-byte instruction would do nicely. As you will no doubt know, the ARM uses a single register – R15 – for both the program counter and status flags. Figure 1 shows the set up. Bits 2 to 25 contain the program counter. The bottom two bits contain the processor mode (user, IRQ, FIQ or Supervisor); they are not needed for the program counter of course, since instructions always lie on word boundaries.

Bits 26 and 27 are flags to disable FIQs and IRQs respectively. Bits 28 and upwards are the ones you are most likely to need to fiddle with in general programming, being the overflow (V), carry (C), zero (Z) and negative (N) flags.



The layout of register R15.

Of the four, V is clearly the most intensively used. To indicate an error, V is set and R0 is set to point to an error block. This is generally done just before return from a subroutine. The C flag can also be quite useful as a means of returning yes/no type information. For example, **"OS_ReadEscapeState"** returns with the carry set if Escape has been pressed. This means that straight after the call you can do a **BCC** or the like.

But how can you set these bits? There are many restrictions on the use of register R15 and because the PSR is part of R15, here lies the problem.

To set V you want to do this:

```
ORR pc,pc,#1<<28
```

but this won't work! For one thing, you don't actually want to mess about with the PC. Of course, if you are actually changing the contents of the PC you can use the opportunity to set a flag or two at the same time. So a subroutine might conclude as follows:

```
ADR r0,error
ORRS pc,link,#1<<28
```

This is the way in which we are most like to set the V flag. The S part of **ORRS** means *do* set the PSR flags. Without it, just the PC part of R15 will be copied from the link register, and the status of V is maintained.

It is unlikely you will need to set V in any other context but sometimes you may wish to clear it, for example, to ignore an error. One method is to use a **TEQP**. This rather unpleasant instruction is generally used to change processor mode, but you could use it to clear V if you wished:

```
MOV r9,pc
BIC r9,r9,#1<<28
TEQP r9,#0
```

TEQP effectively copies bits directly into the PSR. You cannot just set one bit however, so to avoid changing processor mode or affecting the interrupt flags, you first have to read the current status of these bits into another register, **ORR** or **BIC** the bits you want to change and then do the **TEQP**. All a bit messy!

So, the question remains, is there a simple one-instruction way of setting or clearing V, C etc, which won't require the use of another register? Well, sort of. Because we can rely on the PC have a positive value, we can do certain comparisons with it to alter the status bits in the desired way. To clear the carry and the overflow flag do:

```
CMN pc,#0        ; = CLC or CLV
```

This will also clear the N and Z bits. To set the carry use:

```
CMP pc,#0        ; = SEC
```

This also clears V, N and Z. You can set V with:

```
CMP pc,#&80000000        ; =SETV
```

This clears Z and C, and sets N.

Unfortunately, as you can see, the above affect all of the status bits at once, so there may not be a single instruction to set them to the combination you want.

*QUIT

All submissions – large or wee – very welcome. Send to:

*INFO, *Acorn User*, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP

or e-mail us (remembering to include your real address) at:

starinfo@acornusr.demon.co.uk

You needn't include a letter but do please put your name, address and program title on every disc and include a text file containing at least your name, address, disc contents and basic program details. An SAE will ensure your discs are returned and any other instructions, diagrams, saved screens etc are also gratefully received.

Compatibility table

All the programs in *INFO run on RISC OS 2, RISC OS 3.1 and RISC OS 3.6, except the Jan Vibe programs *Gate* and *Tree*, which don't run on RISC OS 2. All of the programs will run in 1Mb of memory. Note that on RISC OS 2 you may need to allocate 160K to screen memory to avoid 'Bad MODE' errors; choose the 'Task display' entry on the Task Manager menu and drag the slider bar that indicates screen memory.

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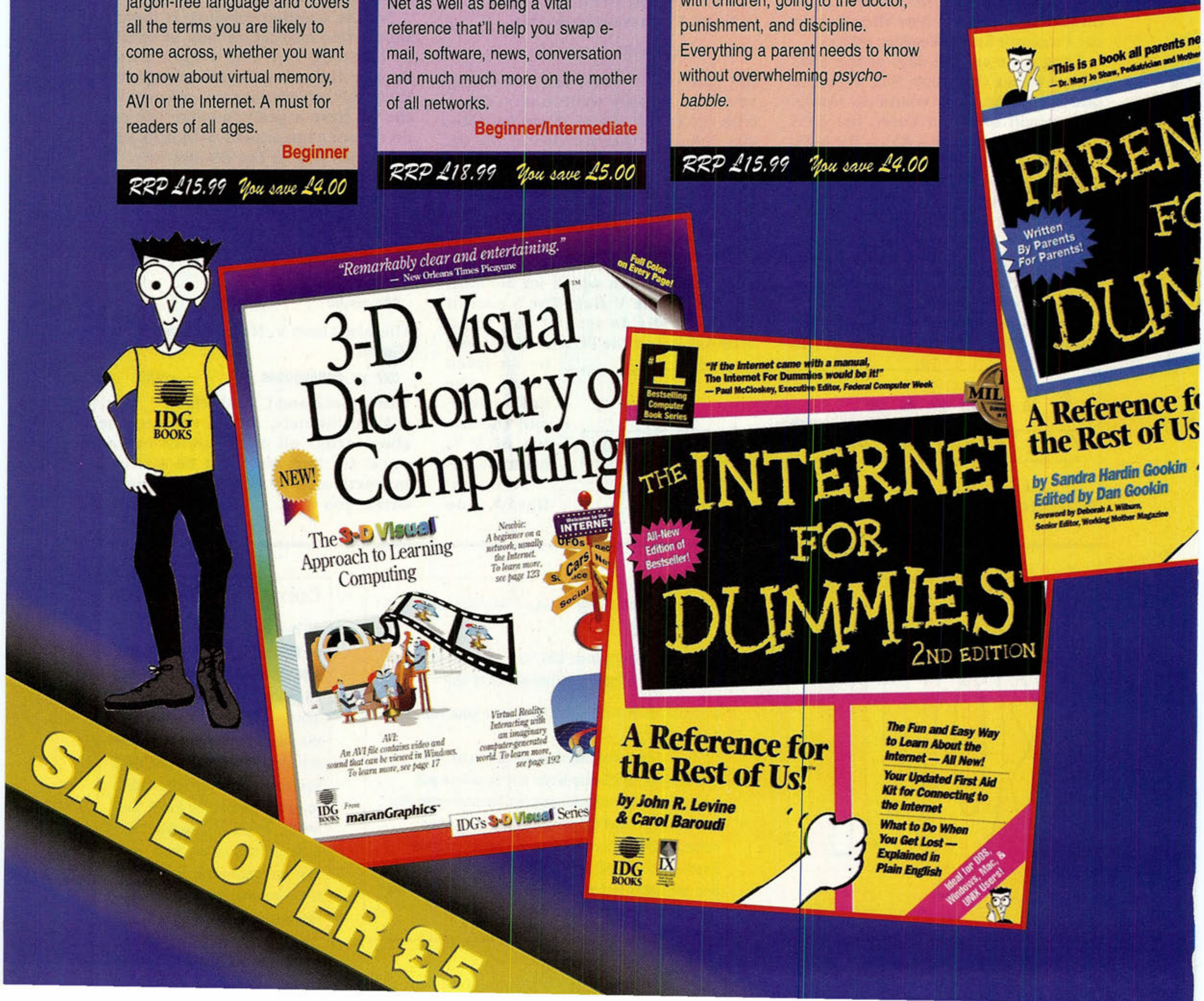
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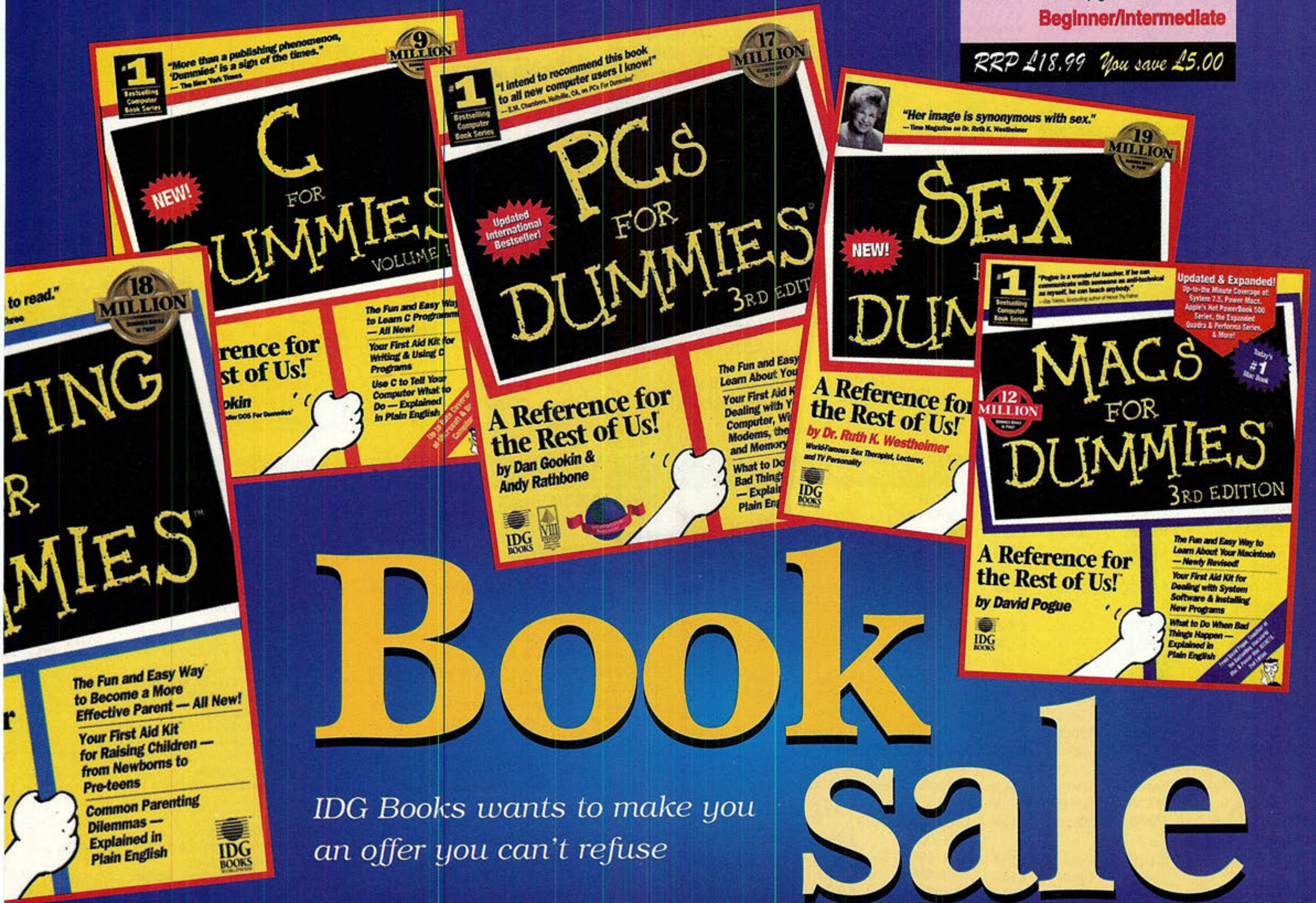
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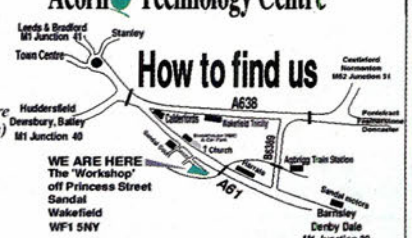
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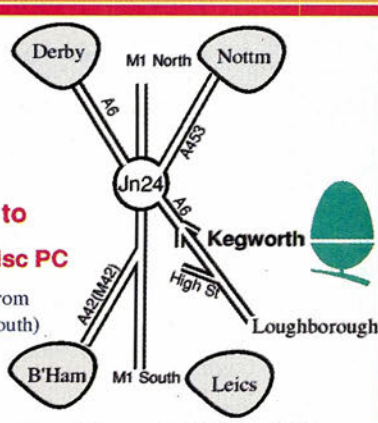
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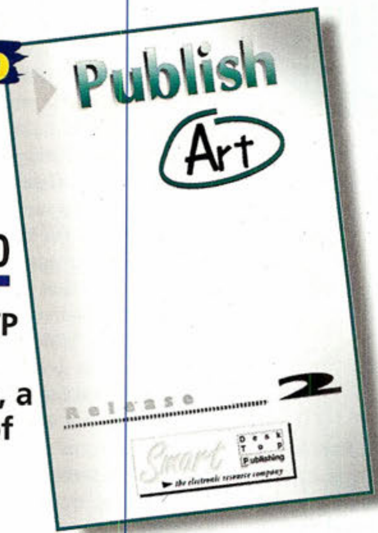


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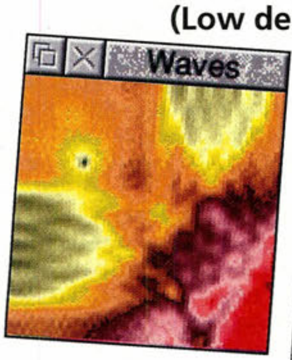
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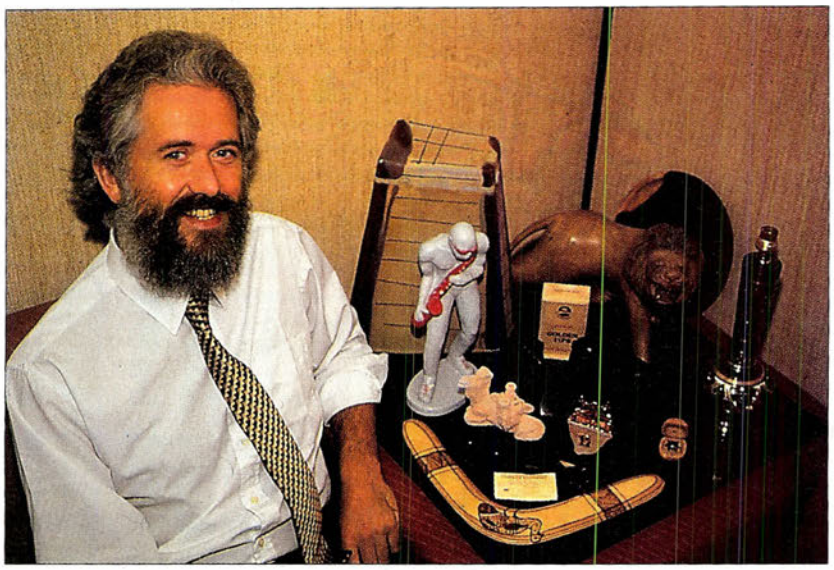
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PAUL McKINNON

The Moxon Interview

John Simnett

> ...companies like BT are laying down the cabling, but we'll be concentrating on what happens in the *classroom*, where there'll be a mixture of new and old machines, and there's the whole aspect of how to make the best use of technology to teach children.

You can tell a lot from where people live. Some people dream of a quaint cottage in the country with climbing ivy and axes above the door; some live in a city-centre cupboard with a pull-down bed and, if they're lucky, a postage stamp-sized garden; some own acres of land with a house the size of the Taj Mahal and a friendly horse called Dobbin; the variety is endless.

John Simnett, managing director of Cumana, lives in a boat on the Thames. He's also got a strange collection of objects in his Guildford office, ranging from a genuine Australian boomerang to wooden plates and sculptures from across the world. And he drinks Camomile tea, with strange herbs floating in it.

It's a far cry from the company he runs. Since John took over the running of Cumana, it's gone from a recession-hit memory company to a successful player in the multimedia and networking arena.

The company's offices contain all the departments involved in product development, including research and development, a manufacturing floor (all Cumana products are assembled by the company itself), sales and marketing, technical support and storage.

It's a fascinating insight into the production process, and it's all under one roof. The beauty is that Cumana is in total control of the quality of its process, and this fits into the aim of the company: to be a provider of solutions for the classroom.

'The root of the company is in data storage, which has led into multimedia and networking,' says John. 'Education is our core business, and that's where our expertise lies; the trick is to make a complex process in the classroom simple, or even better to remove that process altogether.

'A lot of effort goes into making things simple. For example, our CD-ROM drives come with an audio mixer, which isn't necessarily a massive selling point. However it's aimed at the non-technical teacher who expects to get sound when he or she expects it, and the audio mixer makes sure this happens automatically.

'The Nexus network system has a button you can press if you get a crash, and it just re-boots. These things aren't easy to design, but they make life that much easier for the teacher, so hopefully they come back to us for more products.'

This philosophy seems to be working. This year's sales are 43 per cent up on last year's, and the recent changes in Acorn's internal organisation can only help the likes of Cumana.

'From a commercial standpoint, I can fully understand why Acorn has made the changes it has,' says John. 'Without doubt, the changes should benefit Cumana; Acorn will need strong partners as it moves into its next phase. It's certainly stayed very close to us throughout the changes so far.

'Where we've always worked well in the Acorn marketplace is to see a gap, discuss it with Acorn, and then try to fill it. This still applies, and we've been through so many changes ourselves over the last few years, that we'll simply change with the market. That's what makes it so interesting.'

So Cumana is definitely continuing its strong support of the Acorn market, when some other companies aren't so convinced.

'We've always believed in the right to develop for the platform we like, rather than follow the industry platform,' explains John. 'We do produce PC products, but we design them for an Acorn first.'

So the future for Cumana is to stay with Acorn, but what about the future of Cumana's products?

'We cover a lot of areas,' says John. 'We're interested in development of broadband technologies as they develop: for example, companies like BT are laying down the cabling, but we'll be concentrating on what happens in the *classroom*, where there'll be a mixture of new and old machines, and there's the whole aspect of how to make the best use of technology to teach children.

'We already have products that fit into the classroom of the future, but multimedia is such a developing area – is the proTeus drive a multimedia product, a backup device, or a data storage product? – that we'll have to keep working to stay ahead'.

And the future for John himself?

'I see myself eventually ending up on a yacht in the Carribean,' says John, meaning every word of it. 'I'm also hoping to go on an expedition to the North Pole in the near future: the travel bug is beginning to bite again.

'The average temperature there is minus 50 degrees, and the biggest danger is from the polar bear, so the recent changes in the Acorn market are a doddle in comparison'.

Like I said, some people live in pretty country cottages, but not John Simnett. He's a great example of the old adage that travel broadens the mind, and broadening your mind is obviously good for your business sense, too.

Mark Moxon AU

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